

H12728

U.S. Department of Commerce
National Oceanic and Atmospheric Administration
National Ocean Service

DESCRIPTIVE REPORT

Type of Survey: Basic Hydrographic Survey

Registry Number: H12728

LOCALITY

State(s): Louisiana

General Locality: Gulf of Mexico

Sub-locality: 23 NM SE of Sabine Pass

2015

CHIEF OF PARTY
Paul L. Donaldson

LIBRARY & ARCHIVES

Date:

HYDROGRAPHIC TITLE SHEET

H12728

INSTRUCTIONS: The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

State(s): **Louisiana**

General Locality: **Gulf of Mexico**

Sub-Locality: **23 NM SE of Sabine Pass**

Scale: **40000**

Dates of Survey: **10/09/2015 to 12/15/2015**

Instructions Dated: **04/09/2015**

Project Number: **OPR-K371-KR-15**

Field Unit: **Leidos**

Chief of Party: **Paul L. Donaldson**

Soundings by: **Multibeam Echo Sounder**

Imagery by: **Side Scan Sonar Multibeam Echo Sounder Backscatter**

Verification by: **Atlantic Hydrographic Branch**

Soundings Acquired in: **meters at Mean Lower Low Water**

Remarks:

Contract: EA-133C-14-CQ_0033.

Contractor: Leidos, 221 Third Street, Newport, RI 02840 USA.

Subcontractors: Divemasters, Inc., 15 Pumpshire Road, Toms River, NJ 08753 and OARS, 8705 Shoal Creek Blvd, Suite 109, Austin, TX

78757. Leidos Doc 16-TR-022.

All times were recorded in UTC.

Data were collected in UTM Zone 15.

The purpose of this survey is to provide contemporary surveys to update National Ocean Service (NOS) nautical charts. All separates are filed with the hydrographic data. Any revisions to the Descriptive Report (DR) generated during office processing are shown in bold red italic text. The processing branch maintains the DR as a field unit product, therefore, all information and recommendations within the body of the DR are considered preliminary unless otherwise noted. The final disposition of surveyed features is represented in the OCS nautical chart update products. All pertinent records for this survey, including the DR, are archived at the National Centers for Environmental Information (NCEI) and can be retrieved via <https://www.ncei.noaa.gov/>.

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Descriptive Report to Accompany Survey H12728

Project: OPR-K371-KR-15

Locality: Gulf of Mexico

Sublocality: 23 NM SE of Sabine Pass

Scale: 1:40000

October 2015 - December 2015

Leidos

Chief of Party: Paul L. Donaldson

A. Area Surveyed

The area surveyed was a section of the Gulf of Mexico SE of Sabine Pass, LA (Figure 1).

A.1 Survey Limits

Data were acquired within the following survey limits:

Northwest Limit	Southeast Limit
29° 27' 37.58" N	29° 22' 19.35" N
93° 37' 55.34" W	93° 24' 21.89" W

Table 1: Survey Limits

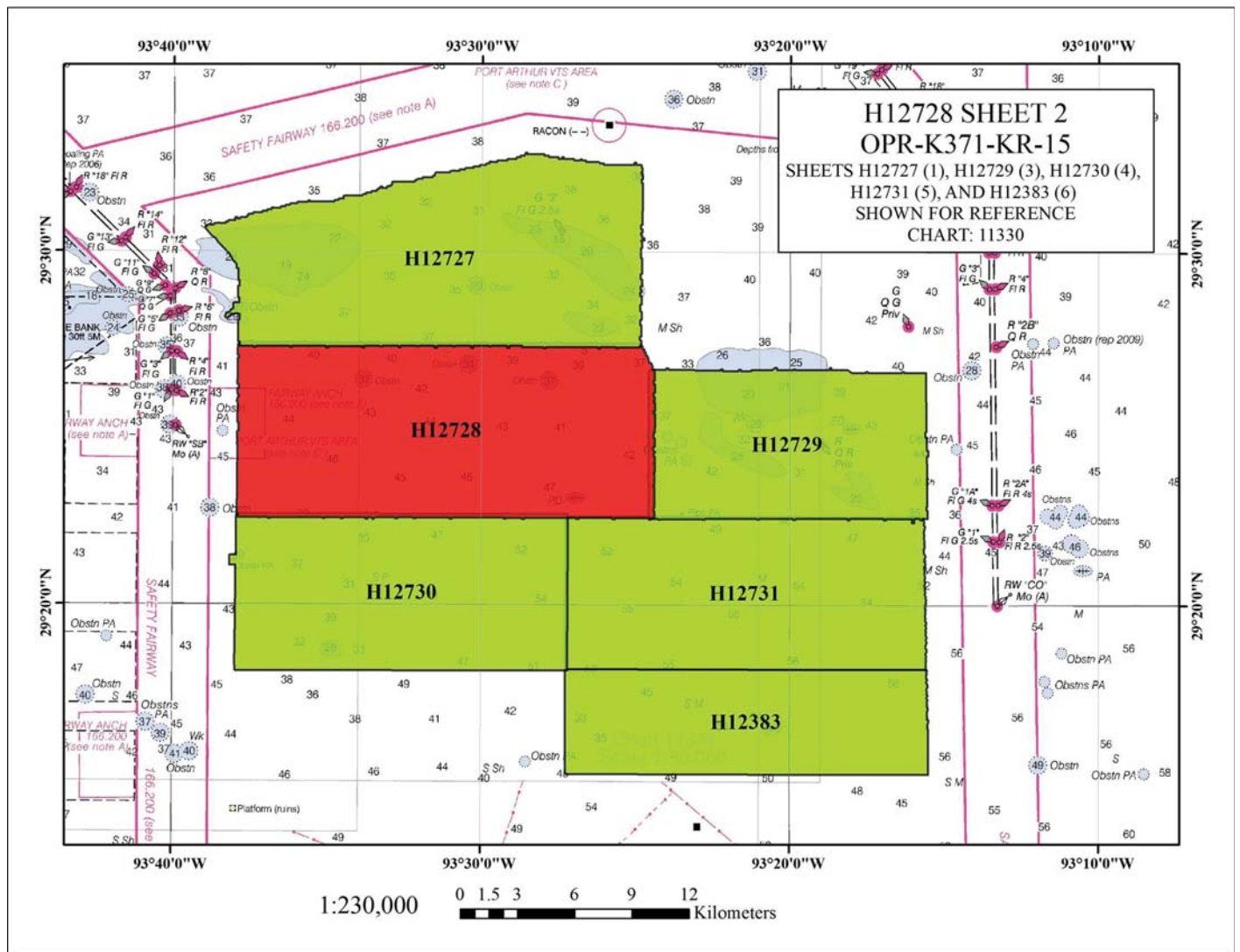


Figure 1: H12728 Survey Bounds

Survey limits were acquired in accordance with the requirements in the Project Instructions and the NOS Hydrographic Survey Specifications and Deliverables (HSSD).

A.2 Survey Purpose

The purpose of this survey is to update existing NOS nautical charts. This project is located in a highly trafficked area that covers approximately 180 square nautical miles of critical area southeast of the Louisiana coast as designated in 2012 NOAA Hydrographic Survey Priorities.

A.3 Survey Quality

The entire survey is adequate to supersede previous data.

Leidos warrants only that the survey data acquired by Leidos and delivered to NOAA under Contract EA-133C-14-CQ-0033 reflects the state of the sea floor in existence on the day and at the time, the survey was conducted.

H12728 was surveyed in accordance with the following documents:

1. Project Instructions, OPR-K371-KR-15, dated 09 April 2015
2. NOS Hydrographic Survey Specifications and Deliverables (HSSD), May 2015
3. OPR-K371-KR-15 Statement of Work, dated 09 January 2015

A.4 Survey Coverage

The following table lists the coverage requirements for this survey as assigned in the project instructions:

Water Depth	Coverage Required
All waters in survey area.	Either A) Complete MBES with backscatter, OR B) 100% SSS with concurrent set line spacing with MBES with backscatter. Note: Complete MBES is sufficient for both determination of least depth identified with SSS and for disproving a feature - 100% SSS is sufficient to disprove a feature. Refer to Section 6.1.2 of the HSSD to confirm proper SSS acquisition parameters. Gaps in SSS coverage should be treated as gaps in MBES coverage and addressed accordingly.

Leidos chose to achieve the coverage requirement using 100% side scan sonar with concurrent set line spacing multibeam echo-sounder with backscatter. Survey coverage was in accordance with the requirements in the Project Instructions and the HSSD.

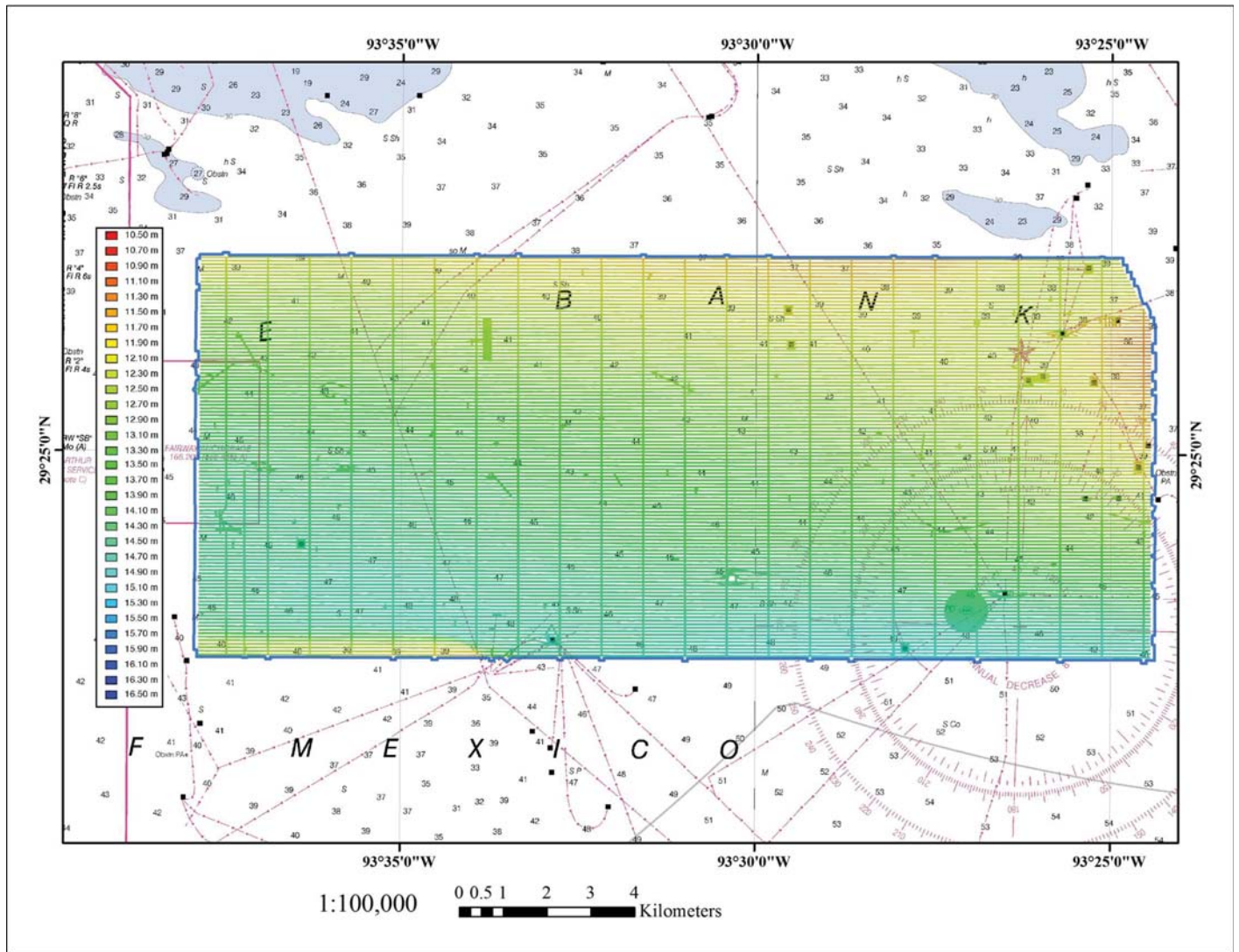


Figure 2: Final Bathymetry Coverage for H12728

A.5 Survey Statistics

The following table lists the mainscheme and crossline acquisition mileage for this survey:

	HULL ID	<i>M/V Atlantic Surveyor</i>	<i>Total</i>
LNM	SBES Mainscheme	0	0
	MBES Mainscheme	0	0
	Lidar Mainscheme	0	0
	SSS Mainscheme	0	0
	SBES/SSS Mainscheme	0	0
	MBES/SSS Mainscheme	1394.19	1394.19
	SBES/MBES Crosslines	117.25	117.25
	Lidar Crosslines	0	0
Number of Bottom Samples			9
Number Maritime Boundary Points Investigated			0
Number of DPs			0
Number of Items Investigated by Dive Ops			0
Total SNM			58.16

Table 2: Hydrographic Survey Statistics

The following table lists the specific dates of data acquisition for this survey:

Survey Dates	Day of the Year
10/09/2015	282
10/10/2015	283
10/11/2015	284
10/12/2015	285
10/13/2015	286
10/14/2015	287
10/15/2015	288
10/16/2015	289
10/17/2015	290
11/02/2015	306
11/03/2015	307
11/16/2015	320
11/17/2015	321
12/09/2015	343
12/15/2015	349

Table 3: Dates of Hydrography

B. Data Acquisition and Processing

B.1 Equipment and Vessels

Leidos used their ISS-2000 software on a Windows 7 platform to acquire these survey data. Survey planning and data analysis were conducted using the Leidos SABER software on Red Hat Enterprise 6 Linux platforms. L-3 Klein 3000 side scan data were collected on a Windows 7 platform using L-3 Klein's SonarPro software. Subsequent processing and review of the side scan data, including the generation of coverage mosaics, were accomplished using SABER.

A detailed description of the systems and vessel used to acquire and process these data is included in the Data Acquisition and Processing Report (DAPR) for OPR-K371-KR-15, delivered on 12 February 2016. There were no variations from the equipment configuration described in the DAPR.

B.1.1 Vessels

The following vessels were used for data acquisition during this survey:

Hull ID	<i>M/V Atlantic Surveyor</i>
LOA	110 feet
Draft	9 feet

Table 4: Vessels Used

The M/V Atlantic Surveyor was used to collect multibeam sonar (RESON Seabat 7125 SV and RESON Seabat 8101 ER), side scan sonar (L-3 Klein 3000), and sound speed data during twenty-four hours per day survey operations.

A detailed description of the vessel used is included in Section A of the DAPR.

B.1.2 Equipment

The following major systems were used for data acquisition during this survey:

Manufacturer	Model	Type
RESON	SeaBat 7125 SV	MBES
RESON	Seabat 8101 ER	MBES
L-3 Klein	3000	SSS
Applanix	POS/MV 320	Positioning and Attitude System
Trimble	Probeacon	Positioning System
ODIM Brooke Ocean	MVP-30	Sound Speed System

Table 5: Major Systems Used

A detailed description of the equipment installed is included in Section A of the DAPR.

B.2 Quality Control

B.2.1 Crosslines

Crosslines acquired for this survey totaled 8.41% of mainscheme acquisition.

There were 117.25 linear nautical miles of crosslines and 1394.19 linear nautical miles of mainscheme lines surveyed on H12728. This resulted in crossline mileage of approximately 8.41% of the mainscheme mileage which meets the requirement (Section 5.2.4.3 of the 2015 HSSD) to achieve at least four percent for a complete coverage multibeam survey. H12728 requirements were for complete coverage based on the 2015 HSSD and set line spacing in the 2014 HSSD. Leidos was granted permission from NOAA (correspondence email dated 26 October 2015) to deliver H12728 data to the 2015 HSSD version after survey operations had already commenced; therefore, crossline survey plans were made to the 2014 HSSD requirement of eight percent.

The mainscheme lines were orientated 90°/270° and spaced 80 meters apart. Crosslines were oriented 0°/180° and were primarily spaced 950 meters apart. Additional crosslines were added by the field unit as needed. Refer to the “Multibeam Processing Log” section within Separates I for information on the delineation of mainscheme and crossline data files.

In the field, hydrographers conducted daily comparisons of mainscheme to near nadir crossline data to ensure that no systematic errors were introduced, and to identify potential problems with the survey systems. After the application of all correctors and completion of final processing in the office, separate one-meter grids were built. One grid contained the full valid swath ($\pm 60^\circ$ from nadir) of mainscheme multibeam and the other included only the near nadir swath ($\pm 5^\circ$ from nadir) crossline data. Difference grids were then generated by subtracting one grid from the other.

The SABER Frequency Distribution Tool was used to analyze the difference grids. All comparisons fell within the requirement defined in Section 5.2.4.3 of the HSSD, which states that at least 95% of the depth difference values are to be within the maximum allowable total vertical uncertainty. Figure 3 summarizes the comparison results. See Separates II for a complete discussion of the analysis and tabular results.

DIFFERENCE GRID	IHO 1A Maximum Allowable Uncertainty (Meters) for the Range of Depths	Percent of Depth Differences Less than IHO Order 1A Maximum
M/V Atlantic Surveyor Multibeam Crossline (Class 1) to Mainscheme	0.519 – 0.541	100
M/V Atlantic Surveyor RESON Seabat 7125 SV Multibeam to RESON Seabat 8101 ER Multibeam	0.519 – 0.541	99.99

Figure 3: Summary of Crossing Analysis

B.2.2 Uncertainty

The Total Propagated Uncertainty (TPU) model that Leidos has adopted had its genesis at the Naval Oceanographic Office (NAVOCEANO), and is based on the work by Rob Hare and others (“Error Budget Analysis for NAVOCEANO Hydrographic Survey Systems, Task 2 FY 01”, 2001, HSRC FY01 Task 2 Final Report). Once the TPU model is applied to the GSF bathymetry data, each beam is attributed with the horizontal uncertainty and the vertical uncertainty at the 95% confidence level. For specific details on the use and application of the SABER Total Propagated Uncertainty model, see Section B.1 in the DAPR.

The vertical and horizontal uncertainty values that were estimated by the TPU model for individual multibeam soundings varied little across the dataset, tending to be most affected by beam angle. During application of horizontal and vertical uncertainties to the GSF files, individual beams where either the horizontal or the vertical uncertainty exceeded the maximum allowable IHO S-44 5th Edition Order 1a specifications were flagged as invalid. As a result, all individual soundings used in development of the final CUBE depth surface had modeled vertical and horizontal uncertainty values at or below the allowable IHO S-44 5th Edition, Order 1a uncertainty.

During the creation of the CUBE surface, two separate vertical uncertainty surfaces are calculated by the SABER software. One surface contains the standard deviation of all soundings that are contributing to the CUBE hypothesis (Hyp. StdDev), and the other contains the average of the vertical uncertainty of all soundings contributing to the CUBE hypothesis (Hyp. AvgTPE). A third vertical uncertainty surface is generated from the larger value of these two uncertainties at each node and is referred to as the Hypothesis Final Uncertainty. For specific details on this process, see Section B.2 of the DAPR.

The final one-meter PFM CUBE surface contained final vertical uncertainties that ranged from 0.470 to 1.117 meters. The IHO Order 1a maximum allowable vertical uncertainty was calculated to range between 0.519 to 0.541 meters, based on the minimum CUBE depth (10.575 meters) and maximum CUBE depth (15.904 meters). The SABER Check PFM Uncertainty function was used to highlight all instances in the Hypothesis Final Uncertainty surface where a given node exceeded the IHO Order 1a allowable vertical uncertainty for the CUBE depth at that node. The final one-meter PFM CUBE surface contained 162 individual CUBE nodes with final vertical uncertainties that exceeded IHO Order 1a allowable vertical uncertainty. The nodes that exceed the IHO Order 1a allowable vertical uncertainty for the CUBE depth are located around features where there is a high variability in the depth soundings or along the edge of a swath where there is a tidal difference between the two swaths.

The SABER Frequency Distribution Tool was used to review the Hypothesis Final Uncertainty surface within the final one-meter PFM grid. The results show that in the final one-meter PFM grid, 99.99% of all nodes had final uncertainties less than or equal to 0.49 meters.

B.2.3 Junctions

An analysis of H12728 junctions with contemporary surveys was performed. Figure 4 shows the general locality of H12728 as it relates to the contemporary sheets for which junction analysis was performed. Table 6 provides details for each contemporary sheet junction analysis that was performed. See Separates II for a complete discussion of the junction results and tabular listings. Note that analysis of the junction with sheets H12729 and H12730 was not conducted, as the processing efforts for those sheets were still ongoing.

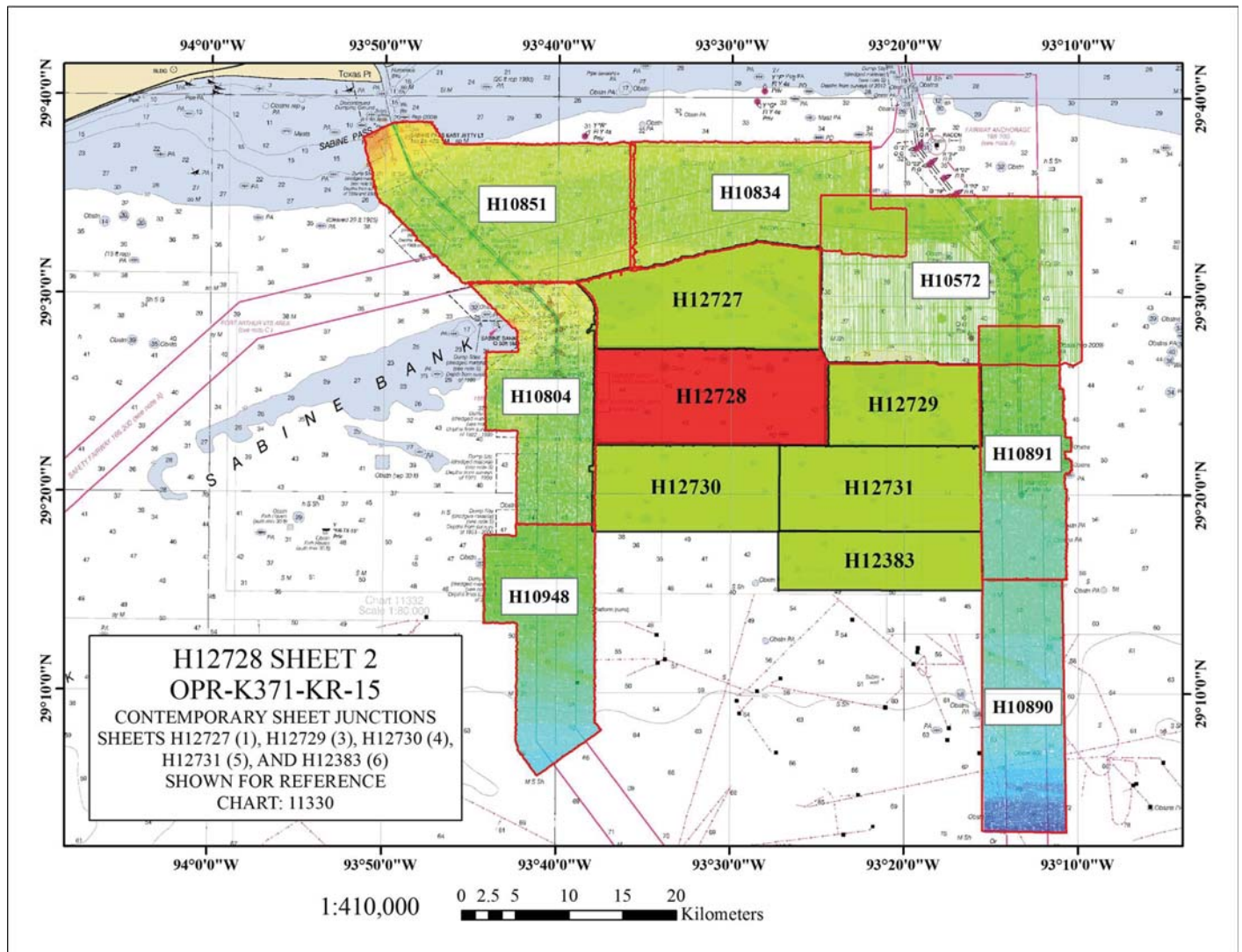


Figure 4: General Locality of H12728 with Contemporary Surveys

The following junctions were made with this survey:

Registry Number	Scale	Year	Field Unit	Relative Location
H10572	1:20000	1994	NOAA Ship MOUNT MITCHELL	NE
H10804	1:20000	1999	C and C Technologies, Inc.	W
H12727	1:40000	2015	Leidos	N

Table 6: Junctioning Surveys

H10572

H12728 junctions with H10572 to the northeast; 99.22% of the comparisons agreed within ± 0.45 meters.

H10804

H12728 junctions with H10804 to the west; 98.96% of the comparisons agreed within ± 0.70 meters.

H12727

H12728 junctions with H12727 to the north; 98.44% of the comparisons agreed within ± 0.15 meters.

B.2.4 Sonar QC Checks

Sonar system quality control checks were conducted as detailed Section A.5, Multibeam Systems and Operations, of the DAPR.

B.2.5 Equipment Effectiveness

There were no conditions or deficiencies that affected equipment operational effectiveness.

B.2.6 Factors Affecting Soundings

During localized weather events, an artifact resulting from a difference in water levels between the survey area and the water level gauge could be seen in the multibeam CUBE surface. The artifact generally ranged between 10 to 30 centimeters when present (Figure 5). Additionally, positional scatter resulting from normal DGPS variability was sometimes visible in the sounding data for discrete features with multiple passes (Figure 6). This horizontal offset was not always present as depicted in Figure 7, which shows three passes over a distinct object (represented by three colors) which align quite well. These occasional vertical and horizontal offsets observed within H12728 were within the IHO Order 1a allowable vertical and horizontal uncertainty for these water depths.

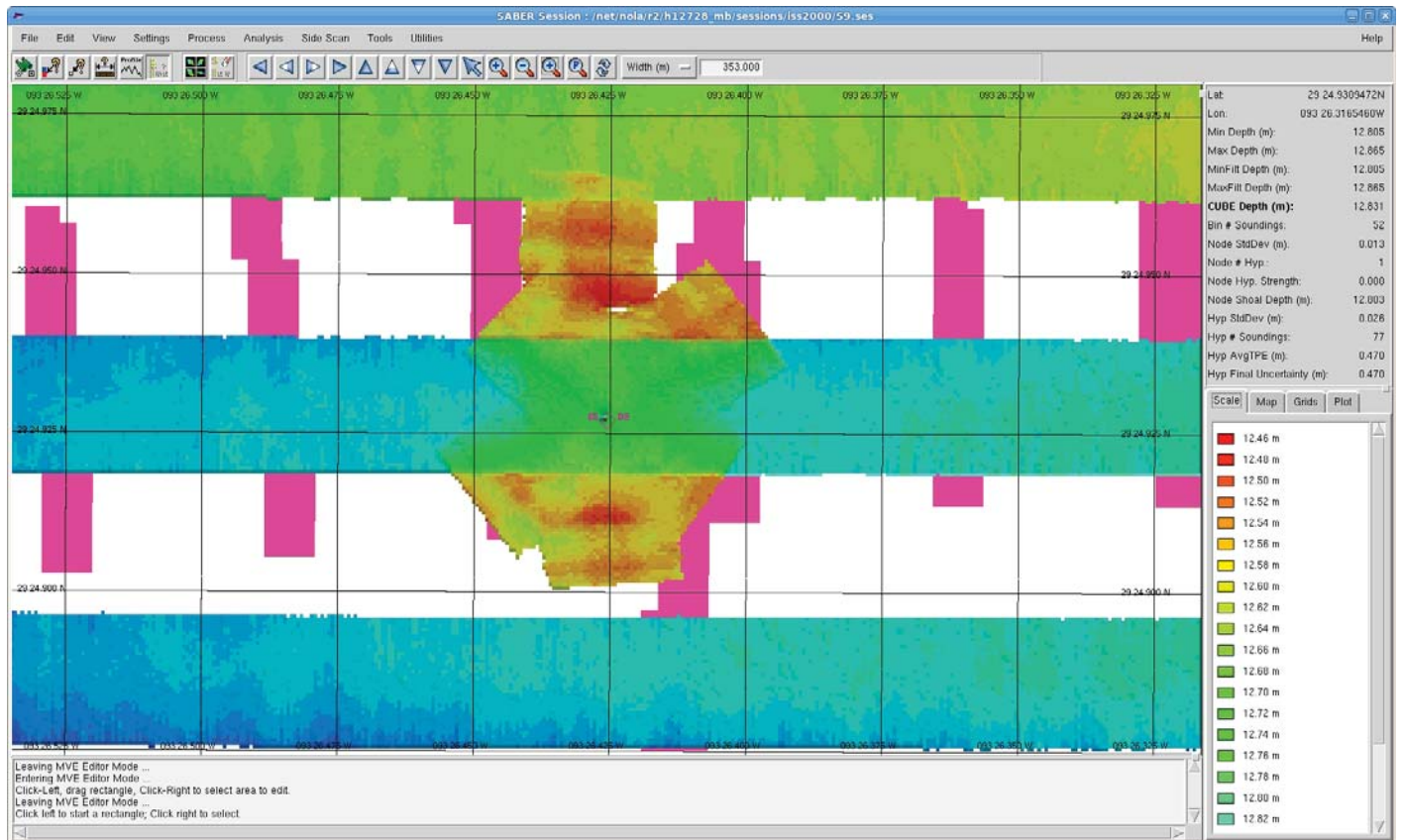


Figure 5: CUBE Depth Delta Resulting From Local Weather Events

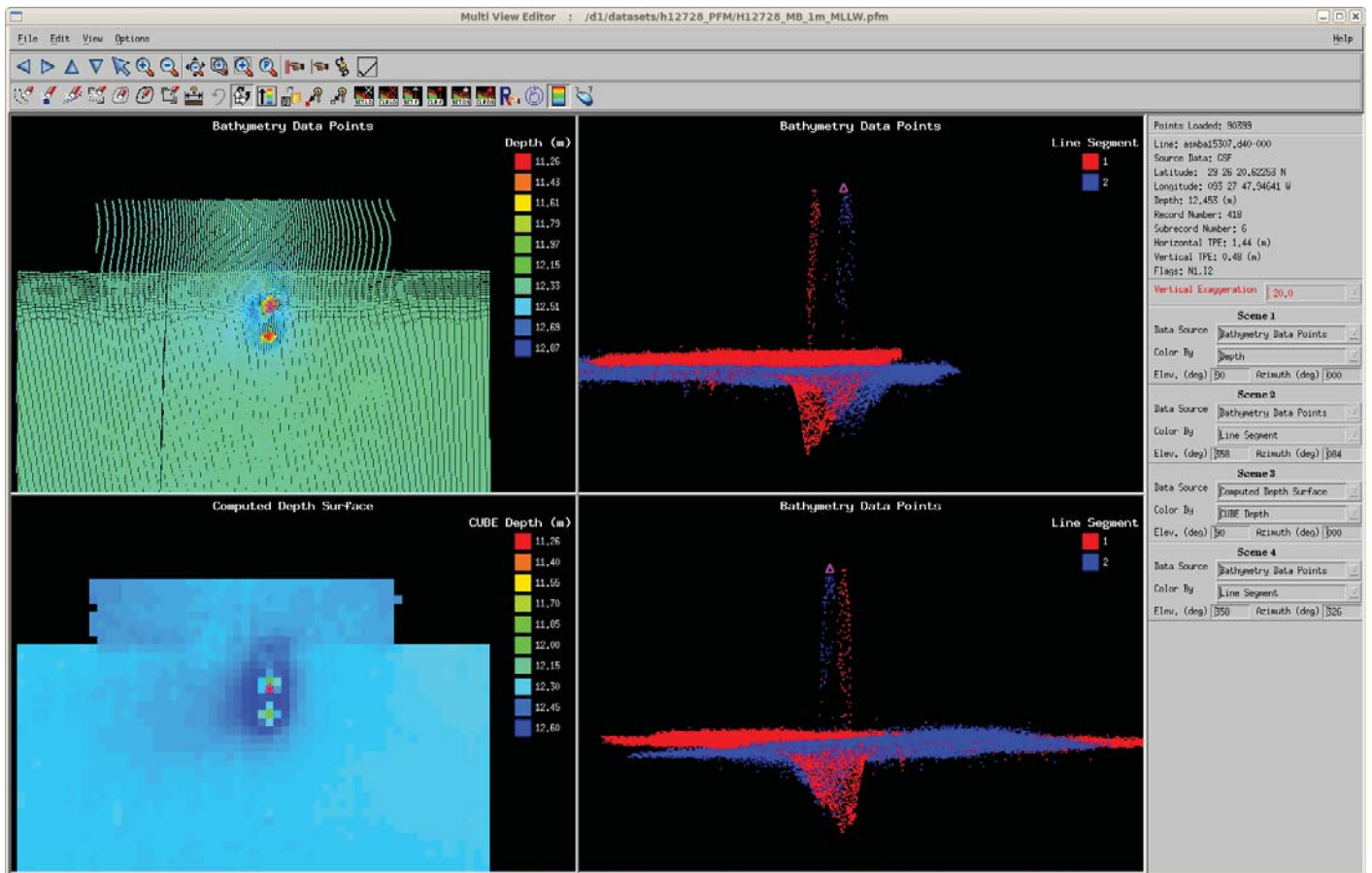


Figure 6: DGPS Positional Variation Between Passes

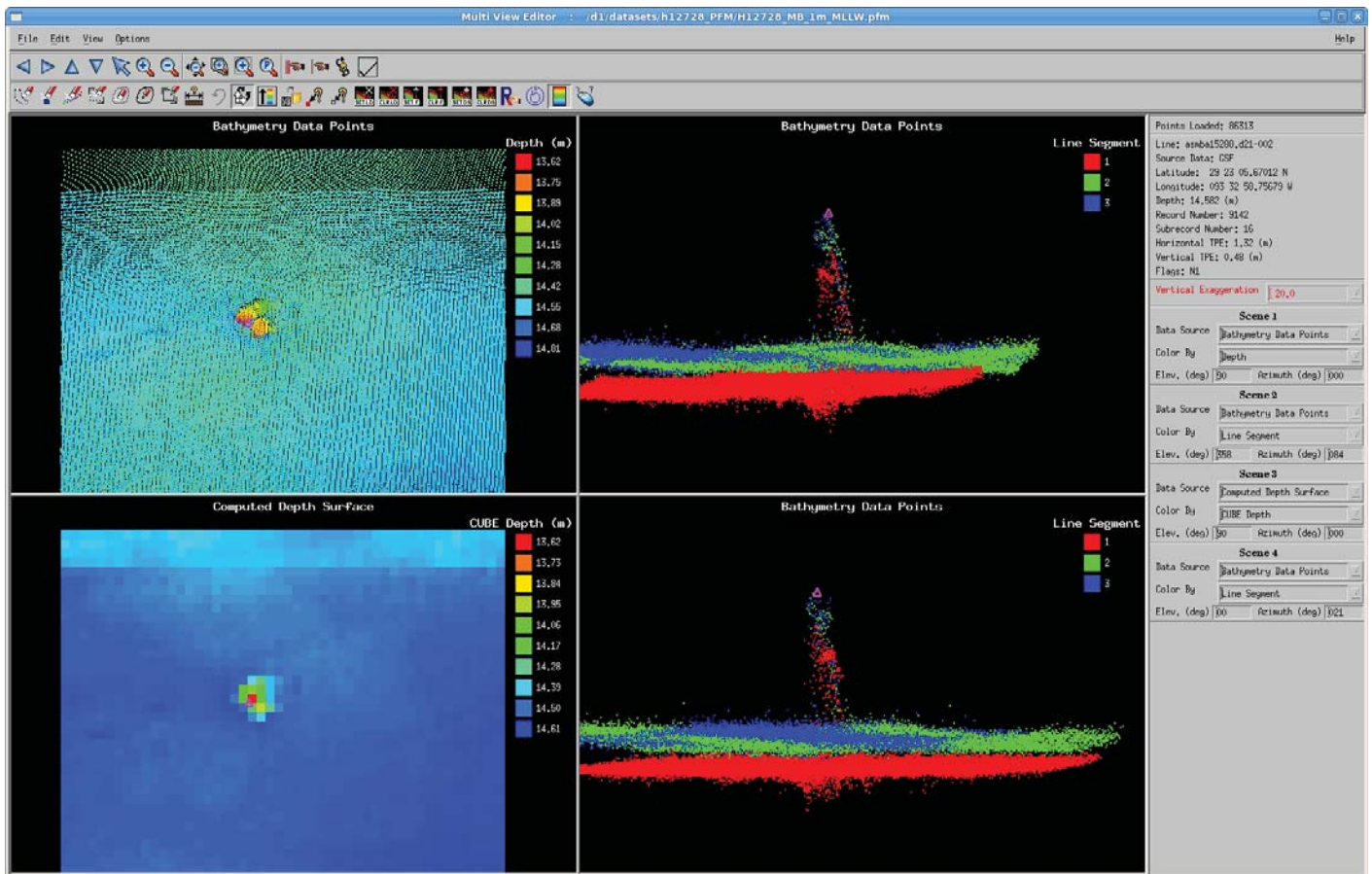


Figure 7: No DGPS Positional Variation Between Multiple passes and Multiple Headings

B.2.7 Sound Speed Methods

Sound Speed Cast Frequency: On the M/V Atlantic Surveyor, the MVP30 was used to collect sound speed profile (SSP) data. SSP data were obtained at intervals frequent enough to meet depth accuracy requirements. Section 5.2.3.3 of the HSSD requires that if the sound speed measured at the sonar head differs by more than two meters/second from the commensurate profile data, then another cast shall be acquired. There were times when the sound speed values exceeded the two meters/second threshold due to the local temporal and tidal variability. During these times, several profiles were acquired and reapplied in an effort to reduce these effects. The product of this effort resulted in the final data bearing no significant artifacts due to sound speed differences. Four SSP cast data had some noise in the first few samples of the profile above the draft of the transducer. The multibeam files associated with the above identified SSP files were reviewed and no artifacts were present; therefore Leidos did not remove the noise from these SSP files.

All sound speed profiles that were applied for online bathymetry data collection were acquired within one kilometer of the bounds of the survey area. Please refer to the DAPR for specific details regarding acquisition (Section A.7) and application (Section C.1.3) of sound speed profiles.

Confidence checks of the sound speed profile casts were conducted by comparing at least two consecutive casts taken with different SVP Smart Sensors. Ten sound speed confidence checks were conducted during H12728 and the results can be found in Separates II within the “Comparison Cast Log” section.

Sound speed profiles have been provided in CARIS format (.svp) and are named based on the purpose of the casts. There were four distinct purposes for SSP casts and each concatenated SSP file is located in a separate folder on the delivery drive (H12728/Data/Processed/SVP/CARIS_SSP). There are four files for the MVP sound speed data. All individual sound speed profile files are also delivered with the H12728 data and are broken out into sub-folders, which correspond to the purpose of each cast.

B.2.8 Coverage Equipment and Methods

All equipment and survey methods are detailed in the DAPR.

B.2.9 Coverage Analysis

Leidos chose to achieve the coverage requirement using 100% side scan sonar with concurrent set line spacing multibeam echo-sounder with backscatter. To achieve this coverage, the M/V Atlantic Surveyor used a towed L-3 Klein 3000 side scan sonar set to a 50-meter range scale. Mainscheme line spacing was 80 meters, which insured 100% side scan coverage.

Both the Project Instructions and the 2015 HSSD stated that 100% side scan was insufficient to disprove a charted feature. Therefore, an additional 100% coverage was collected over charted objects that were not found in order to verify disproval. A radius was determined from the Project Instructions, which stated, “In the case of the unassigned offshore oil platforms within the survey area, should the field unit observe that the feature is not visible, then a formal disproval is required. For the purposes of disproval, charted features labeled with a "PA" will have a search radius of 160 meters, a "PD" will have a search radius of 240 meters, and all other features without a position qualifier will have a search radius of 80 meters.” Leidos completed 200% side scan coverage and resulting multibeam echo-sounder coverage over any charted object not found.

Backscatter data were acquired for all water depths.

The SABER Gapchecker routine was used to flag multibeam data gaps exceeding the allowable three by three nodes. Additionally, the entire surface was visually scanned for holidays at various points during the data processing effort. Additional survey lines were run to fill any holidays that were detected. A final review of the CUBE Depth surface in the one-meter grid containing all multibeam showed that any three by three node gaps that existed resulted from holiday lines which did not line up exactly.

All grids were examined for the number of soundings contributing to the chosen CUBE hypotheses for each node by running SABER’s Frequency Distribution Tool on the Hypothesis Number of Soundings (Hyp # Soundings) surface for the one-meter PFM. The Hyp # Soundings surface reports the number of soundings that were used to compute the chosen hypothesis. Analysis of the H12728 final one-meter PFM

grid revealed that 97.49% of all nodes contained five or more soundings; satisfying the requirements for complete coverage surveys, as specified in Section 5.2.2.2 of the HSSD.

B.3 Echo Sounding Corrections

B.3.1 Corrections to Echo Soundings

All data reduction procedures conform to those detailed in the DAPR.

B.3.2 Calibrations

All sounding systems were calibrated as detailed in the DAPR.

B.4 Backscatter

In accordance with the 2015 HSSD and Project Instructions, Leidos collected multibeam backscatter with all GSF data acquired by the RESON Seabat 7125 SV and the RESON Seabat 8101 ER. The multibeam settings used were checked to ensure acceptable quality standards were met and to avoid any acoustic saturation of the backscatter data. The multibeam backscatter data acquired were written to the GSF in real-time by ISS-2000 and are delivered in the final GSF files for this sheet. Backscatter was not processed by Leidos.

B.5 Data Processing

B.5.1 Primary Data Processing Software

The following Feature Object Catalog was used: NOAA Extended Attribute File V5-2. The primary data processing software used for both bathymetry and imagery was SABER. There were no software configuration changes after the DAPR was submitted.

B.5.2 Surfaces

The following surfaces and/or BAGs were submitted to the Processing Branch:

Surface Name	Surface Type	Resolution	Depth Range	Surface Parameter	Purpose
H12728_MB_1m_MLLW	BAG	1 meters	10.575 meters - 15.904 meters	N/A	Complete Coverage
H12728_ss_1_100_mosaic	SSS Mosaic (.tif,.tfw)	1 meters	0 meters - 0 meters	N/A	100% SSS
H12728_ss_2_100_mosaic	SSS Mosaic (.tif,.tfw)	1 meters	0 meters - 0 meters	N/A	200% SSS Charted Object Disproval

Table 7: Submitted Surfaces

A PFM CUBE Depth surface was used to assess and document multibeam survey coverage. The CUBE depth is populated with either the node's chosen hypothesis or the depth of a feature or designated sounding set by the hydrographer, which overrides the chosen hypothesis. The range of CUBE depths in H12728 was from 10.575 meters (34.695 feet, 0.480-meter uncertainty) to 15.904 meters (52.178 feet, 0.472-meter uncertainty). Section 5.2.2.2 of the HSSD requires a one-meter grid resolution for depths ranging from zero meters to 20 meters for Complete Coverage.

The final gridded bathymetry data are delivered as Bathymetric Attributed Grids (BAG). The BAG files were exported from CUBE PFM grids as detailed in Section B.2.5 of the DAPR.

B.5.3 Side Scan Coverage Analysis

For all details regarding side scan data processing, see Section B.3 of the DAPR. The Project Instructions required 100% side scan coverage with concurrent set line spacing MBES with backscatter. Both the Project Instructions and the HSSD stated that 100% side scan was insufficient to disprove a charted feature. Therefore, 100% side scan coverage was collected and verified for the entire survey area, and an additional 100% side scan coverage was collected over charted objects that were not found to verify disproval. Leidos generated two separate 100% coverage mosaics at one-meter cell size resolution as specified in Section 8.3.1 of the HSSD. The first and second 100% coverage mosaics were independently reviewed using tools in SABER to verify data quality and swath coverage. Both coverage mosaics are determined to be complete and sufficient to meet the requirements contained within the Project Instructions. The mosaics are delivered as TIFF (.tif) images with accompanying world files (.tfw), as referenced in Table 7.

Side scan sonar contacts were investigated and confirmed using SABER Contact Review. All side scan sonar contacts and accompanying images are delivered in the Side Scan Sonar Contacts S-57 file; for specifics refer to Section D.2.13.

C. Vertical and Horizontal Control

No vertical or horizontal controls were established, recovered, or occupied during data acquisition for OPR-K371-KR-15, which includes H12728. Therefore, a Horizontal and Vertical Control Report was not required.

C.1 Vertical Control

The vertical datum for this project is Mean Lower Low Water.

Standard Vertical Control Methods Used:

Discrete Zoning

The following National Water Level Observation Network (NWLON) stations served as datum control for this survey:

Station Name	Station ID
Calcasieu Pass, LA	8768094

Table 8: NWLON Tide Stations

File Name	Status
8768094_verified_09222015_to_12202015.tid	Verified Observed

Table 9: Water Level Files (.tid)

File Name	Status
K371KR2015CORP.zdf	Final

Table 10: Tide Correctors (.zdf or .tc)

No final tide note was provided by the NOAA Center for Operational Oceanographic Products and Services (CO-OPS). Leidos is not required to have a final tide note from CO-OPS for H12728 however, a final tide note has been provided by Leidos in Appendix I.

The Tides Statement of Work specified NOAA tide station 8768094 Calcasieu Pass, LA as the source for water level correctors for OPR-K371-KR-15. A full explanation of the tide zone assessment is detailed in Section C.4 of the DAPR. For H12728, 8768094 Calcasieu Pass, LA was the source of all final verified

water level heights for determining correctors to soundings. All data for H12728 were contained within four tide zones (WGM88, WGM81, WGM872, and WGM407) which were provided from NOAA.

Leidos did not revise the delivered tide zones for tide station 8768094 Calcasieu Pass, LA as the water level zoning parameters in the file K371KR2015CORP.zdf, provided by National Ocean Service (NOS) were deemed adequate for the application of observed verified water levels. As a result, they were accepted as final and applied to all H12728 bathymetry data.

Leidos was notified on 14 January 2016 that an adjustment to the observed verified tide correctors posted on the CO-OPS website were changed due to an adjustment of the sensor elevation during maintenance of the sensor. This change modified the observed verified correctors from September 2015 through December, 2015. Leidos downloaded these changes and applied the updated verified tides to all data within H12728.

C.2 Horizontal Control

The horizontal datum for this project is North American Datum of 1983 (NAD83).

The projection used for this project is UTM Zone 15, North.

Please refer to the DAPR for details regarding all antenna and transducer offsets.

During survey data acquisition, the ISS-2000 real-time system provided a continuous view of the positioning comparison between the POS/MV and the Trimble DGPS. An alarm was triggered within ISS-2000 if the comparisons were not within an acceptable range. Any soundings with total horizontal uncertainties exceeding the maximum allowable IHO S-44 5th Edition Order 1a specifications were flagged as invalid and therefore were not used in the CUBE Depth calculations.

The following DGPS Stations were used for horizontal control:

DGPS Stations
English Turn, LA (293 kHz)
Angleton, TX (301 kHz)
Aransas Pass, TX (304 kHz)

Table 11: USCG DGPS Stations

D. Results and Recommendations

D.1 Chart Comparison

The chart comparisons were conducted using the Leidos SABER software to view the BSB raster charts with overlain data for H12728 such as the CUBE gridded surface, selected soundings, contacts, and features. Charting recommendations for depths follow Section 5.1.2 of the HSSD where depths and uncertainties are to be rounded by standard arithmetic rounding (round half up) and accompanying chart depth units are rounded using NOAA cartographic rounding (0.75 round up).

For ENC comparisons, a combination of Jeppesen's dKart Inspector, SevenCs' SeeMyDENC, and CARIS' EasyView were used in conjunction with SABER.

United States Coast Guard (USCG) District 8 Local Notice to Mariners publications were reviewed for changes subsequent to the date of the Hydrographic Survey Project Instructions and before the end of survey (as specified in Section 8.1.4 of the HSSD). The Notice to Mariners reviewed were from week 05/15 (09 September 2015) until week 07/16 (17 February 2016).

H12728 data meet data accuracy standards and bottom coverage requirements. Recommend updating the common areas of all charts using data from this survey. Charting recommendations for all features are provided in the S-57 Final Feature File.

D.1.1 Raster Charts

The following are the largest scale raster charts, which cover the survey area:

Chart	Scale	Edition	Edition Date	LNM Date	NM Date
11341	1:80000	44	03/2013	01/12/2016	01/30/2016

Table 12: Largest Scale Raster Charts

11341

Chart 11341 covers the entire H12728 survey area.

CUBE depths within sheet H12728 agreed with the charted depths and no depths were identified which differed by more than ± 2 foot of the charted depths.

There were no depth contours charted within H12728, which agrees with the data collected during this survey. All depths from this survey were between thirty and sixty feet.

The charted dangerous wreck labeled PD in approximately 29° 23' 04.55"N 093° 27' 01.57"W was not found. A search radius of 500 meters was covered by 200% side scan and resulting multibeam. A feature (Feature 14) was identified approximately 435 meters to the south southeast in 29° 22' 52.12"N 093° 26' 54.23"W however was not identifiable as a wreck. In addition a scattered debris pile (Feature 15) was located approximately 1000 meters south southeast in 29° 22' 33.01"N 093° 26' 51.56"W.

Additional charted objects such as submarine pipelines and platforms are discussed in the sections below. There were no ATONs located within H12728.

All new uncharted features found, and updates to charted features, are documented in the Final Feature File (S-57).

D.1.2 Electronic Navigational Charts

The following are the largest scale ENC's, which cover the survey area:

ENC	Scale	Edition	Update Application Date	Issue Date	Preliminary?
US4LA10M	1:80000	10	11/03/2014	01/21/2016	NO
US4TX71M	1:80000	26	01/14/2016	01/14/2016	NO

Table 13: Largest Scale ENC's

US4LA10M

ENC US4LA10M covers the H12728 survey area, east of 093° 34' 00.63"W.

CUBE depths within sheet H12728 agreed with the charted depths and were generally within ± 0.5 meters of the charted depths.

There were no depth contours charted within H12728, which agrees with the data collected during this survey. All depths from this survey were between nine and eighteen meters.

The charted dangerous wreck with an unknown depth in 29° 23' 04.26"N 093° 27' 01.64"W was not found. A search radius of 500 meters was covered by 200% side scan and resulting multibeam. A feature (Feature 14) was identified 423 meters to the south southeast in 29° 22' 52.12"N 093° 26' 54.23"W however was not identifiable as a wreck. In addition a scattered debris pile (Feature 15) was located 1000 meters south southeast in 29° 22' 33.01"N 093° 26' 51.56"W.

Additional charted objects such as submarine pipelines and platforms are discussed in the sections below. There were no ATONs located within H12728.

All new uncharted features found, and updates to charted features, are documented in the Final Feature File (S-57).

US4TX71M

ENC US4TX71M covers the H12728 survey area, west of 093° 34' 00.63"W.

CUBE depths within sheet H12728 agreed with the charted depths and were generally within ± 0.5 meters of the charted depths.

There were no depth contours charted within H12728, which agrees with the data collected during this survey. All depths from this survey were between nine and eighteen meters.

Additional charted objects such as submarine pipelines and platforms are discussed in the sections below. There were no ATONs located within H12728.

All new uncharted features found, and updates to charted features, are documented in the Final Feature File (S-57).

D.1.3 Maritime Boundary Points

No Maritime Boundary Points were assigned for this survey.

D.1.4 Charted Features

There was one charted dangerous wreck PD within the survey bounds of H12728 in 29° 23' 04.26"N 093° 27' 01.64"W which was not found. See the Raster and ENC chart comparison sections for further details.

D.1.5 Uncharted Features

See the S-57 Final Feature File (FFF) for all details and recommendations regarding new uncharted features investigated.

D.1.6 Dangers to Navigation

The following DTON reports were submitted:

DTON Report Name	Date Submitted
H12728_dton1.000	2015-12-08
H12728_dton2.000	2015-12-08
H12728_dton3.000	2015-12-08
H12728_dton4.000	2015-12-08

Table 14: DTON Reports

Leidos submitted four Danger to Navigation Reports (DTON) in S-57 format. Copies of the Atlantic Hydrographic Branch (AHB) verification email and AHB DTON report, in PDF format, submitted to the Nautical Data Branch (NDB)/Marine Chart Division (MCD) are included in a sub-directory within Appendix II of this Data Report. AHB submitted one DTON report to MCD, which contained Leidos' submitted DTON 1, 2, and 4, which were all obstructions (Figure 8). The Leidos submitted DTON 3, an uncharted offshore platform, was not submitted to MCD by AHB; instead, AHB submitted a separate Navigation Manager Report to the Office of Coast Surveys (OCS) Navigation Manager (Figure 8).

Per guidance from AHB (via email correspondence 07 January 2016 and 20 January 2016), identified gas seeps and exposed pipelines should not to be submitted as DTONs but as Feature Reports, in S-57 format. The Feature Reports generated by Leidos were to provide information for AHB to submit to the OCS Navigation Manager and any other appropriate parties. For H12728, Leidos submitted two Feature Reports; Feature Report 01 (submitted 22 January 2016) contained two exposed sections of pipeline, while Feature Report 02 (submitted 20 February 2016) contained one identified gas seep (Figure 9).

DTON Report Name	AHB submitted to MCD	Feature Number	S-57 Object Class
h12728_dton1.000	2015-12-08	29	OBSTRN
h12728_dton2.000	2015-12-08	31	OBSTRN
h12728_dton3.000	Nav. Mgr. Report	37	OFSPFL
h12728_dton4.000	2015-12-08	17	OBSTRN

Figure 8: DTON Feature Numbers

Feature Report	Leidos submitted to AHB	Feature Number	S-57 Object Class
H12728_Feature_Report_1.000	2016-01-22	21 and 23	PIPSOL
H12728_Feature_Report_2.000	2016-02-20	N/A	\$CSYMB

Figure 9: Feature Reports Submitted to AHB

D.1.7 Shoal and Hazardous Features

There were no significant shoals or hazardous features within the area covered by H12728.

D.1.8 Channels

There were no channels within the area covered by H12728.

D.1.9 Bottom Samples

In accordance with both the Project Instructions and Section 7.1 of the HSSD, bottom characteristics were obtained for H12728. Bottom characteristics were acquired at the nine locations proposed in the Project Reference File (PRF) by NOAA. Leidos did not modify any bottom sample locations from the locations provided by NOAA. Bottom characteristics collected during H12728 are included in the H12728 S-57 FFF, H12728.FFF.000, within the Seabed Area (SBDARE) object and are classified according to the requirements set forth in Appendix H of the HSSD.

D.2 Additional Results

D.2.1 Shoreline

All features within the Composite Source File (CSF) were verified. There were no assigned features inshore of the NALL.

D.2.2 Prior Surveys

Junction analysis with prior surveys H10572, H10804, and H12727 (collected in 1994, 1999, and 2015 respectively) were conducted and the results are presented in Section B.2.4 of this Data Report.

D.2.3 Aids to Navigation

There were no aids to navigation that fell within the area of H12728.

D.2.4 Overhead Features

There were no overhead features within the H12728 survey area.

D.2.5 Submarine Features

Four pipeline (PIPSOL) objects identified in H12728 are delivered in the S-57 FFF to represent sections of pipelines found within the bounds of H12728, utilizing both multibeam and side scan data. Additional charted pipelines fall within the survey coverage; however, the multibeam and side scan data do not show evidence of them and their existence could not be confirmed or disproven. The additional charted pipelines are captured in the S-57 FFF as pipeline (PIPSOL) objects.

Two exposed pipelines (Features 21 and 23) were submitted to AHB as a Feature Report, and were then sent by AHB to the OCS Navigation Manager.

D.2.6 Ferry Routes and Terminals

No ferry routes or terminals exist within the H12728 survey area.

D.2.7 Platforms

Eight platforms were found within the bounds of H12728, one of the eight platforms was not charted (Feature 37). In addition, nine charted platforms were not found; an area with a radius of at least 80 meters was covered by 200% side scan and resulting multibeam around the charted platforms. See the S-57 FFF, H12728.FFF.000, Offshore Platform (OFSPLF) objects, for details and charting recommendations on each platform.

D.2.8 Significant Features

No significant features as defined in Section 8.1.4 of the HSSD exist within the H12728 survey area.

D.2.9 Construction and Dredging

No construction or dredging exists for the H12728 survey.

D.2.10 New Survey Recommendation

No new survey recommendations are made for the area surrounding the H12728 survey area.

D.2.11 Designated Soundings

Designated soundings were used to help better preserve the shallowest sounding relative to the computed depth surface. Separate flags exist in the Generic Sensor Format (version 3.06) for designated soundings and features. All depths flagged as features and designated soundings override the CUBE best estimate of the depth in the final BAG files. Both the designated soundings and features flags, as defined within GSF, are mapped to the same HDCS flag when ingested into CARIS (PD_DEPTH_DESIGNATED_MASK).

Sixteen designated soundings were set for H12728 to preserve the least depth on non-significant objects. The difference between the least depth of these objects and the CUBE depth was more than one-half the maximum allowable total vertical uncertainty at that depth. An individual Correlator Sheet for designated soundings and correlated side scan contacts are presented as JPEG files in the Multimedia folder and are named by the feature numbers (Figure 10).

Feature Number	Correlator Sheet Name	Depth (M)	Latitude	Longitude	Side Scan Contact ID
01	H12728_Feature_01.jpg	12.888	29 25 58.11N	093 36 52.65W	1, 13
03	H12728_Feature_03.jpg	14.018	29 23 47.27N	093 36 10.74W	15, 105
04	H12728_Feature_04.jpg	13.081	29 25 21.44N	093 35 09.44W	N/A
05	H12728_Feature_05.jpg	12.495	29 24 55.62N	093 26 25.54W	129, 130
06	H12728_Feature_06.jpg	14.268	29 22 56.38N	093 27 05.23W	29
07	H12728_Feature_07.jpg	13.526	29 22 47.17N	093 36 56.84W	30
08	H12728_Feature_08.jpg	14.120	29 22 38.24N	093 32 53.02W	43, 121
09	H12728_Feature_09.jpg	11.903	29 22 34.28N	093 37 11.01W	131
16	H12728_Feature_16.jpg	12.020	29 25 15.52N	093 28 16.25W	21, 22, 75, 76
19	H12728_Feature_19.jpg	14.165	29 22 45.94N	093 32 56.72W	39, 92, 117, 124, 126
22	H12728_Feature_22.jpg	13.821	29 22 49.57N	093 33 42.46W	27, 31, 95, 96
24	H12728_Feature_24.jpg	13.598	29 22 59.91N	093 37 47.58W	37, 100, 101
26	H12728_Feature_26.jpg	13.611	29 24 50.35N	093 37 02.84W	104, 127
27	H12728_Feature_27.jpg	13.803	29 24 07.62N	093 36 29.58W	55
28	H12728_Feature_28.jpg	12.943	29 24 32.75N	093 30 50.72W	32, 106, 107
30	H12728_Feature_30.jpg	11.582	29 27 12.96N	093 32 27.35W	2

Figure 10: List of Designated Soundings set within H12728

D.2.12 Final Feature S-57 File

Included with H12728 delivery is the S-57 FFF, H12728.FFF.000. Details on how this file was generated and quality controlled can be found in Section B.2.6 of the DAPR. The S-57 FFF delivered for H12728 contains millimeter precision for the value of sounding (VALSOU) attribute. As specified in Section 8.2

of the HSSD, the S-57 FFF is in the WGS84 datum and is unprojected with all depth units in meters. All significant, and recommended for charting, features found in H12728 are included within the S-57 FFF.

In accordance with the HSSD, Leidos addressed all Assigned objects within the bounds of H12728 from the provided CSF S-57 file in the S-57 FFF. Additionally, all charted objects, derived from the largest scale ENC, are addressed within the S-57 FFF. Note that positions of the objects from the ENC retain the full extents for that object; and therefore some objects extend beyond the H12728 sheet bounds.

For each feature contained in the FFF (S-57), the Feature Correlator Sheet was exported as an image file (.jpg) and is included in the S-57 FFF under the NOAA Extended Attribute field “images”.

D.2.13 Side Scan Sonar Contacts S-57 File

Included with H12728 delivery is the Side Scan Sonar Contact S-57 File, H12728.SSCon.000. Details on how this file was generated and quality controlled can be found in Section B.3.5 of the DAPR. As specified in Section 8.2 of the HSSD, the S-57 feature file is in the WGS84 datum and is unprojected with all depth units in meters.

All side scan contacts are retained within the Side Scan Sonar Contact S-57 File. For each contact included in this S-57 file, a JPEG image of the side scan contact is included under the NOAA Extended Attribute field “images”.

D.2.14 Inset Recommendation

No inset recommendations are made for the area covered by the H12728 survey.


E. Approval Sheet

As Chief of Party, field operations for this hydrographic survey were conducted under my direct supervision, with frequent personal checks of progress and adequacy. I have reviewed the attached survey data and reports.

All BAG files, this Descriptive Report, and all accompanying records and data are approved. All records are forwarded for final review and processing to the Processing Branch.

The survey data meets or exceeds requirements as set forth in the NOS Hydrographic Surveys Specifications and Deliverables, Project Instructions, and the OPR-K371-KR-15 Statement of Work. These data are adequate to supersede charted data in their common areas. This survey is complete and no additional work is required with the exception of deficiencies noted in the Descriptive Report.

Report Name	Report Date Sent
OPR-K371-KR-15_DAPR.pdf	2016-02-12
OPR-K371-KR-15_Coast Pilot Review Report.pdf	2016-02-12
H12727_DR.pdf	2016-02-12

Approver Name	Approver Title	Approval Date	Signature
Paul L. Donaldson	Chief Hydrographer	02/26/2016	 <p>Digitally signed by Paul L. Donaldson DN: cn=Paul L. Donaldson, o=Marine Survey and Engineering Solutions, ou=Leidos, email=paul.l.donaldson@leidos.com, c=US Date: 2016.02.24 10:14:03 -05'00'</p>

APPENDIX I
TIDES AND WATER LEVELS

APPENDIX I. TIDES AND WATER LEVELS

Field Tide Note

A field tide note was not required for H12728.

Final Tide Note

Observed verified water levels for the station in Calcasieu Pass, LA (8768094) were downloaded from the [NOAA Tides and Currents](#) web site. Water Level correctors were prepared for each zone using the **SABER Create Water Level Files** software. The **SABER Apply Correctors** software applied the water level data to the multibeam data according to the zone containing the nadir beam of each ping.

Please refer to the H12728 Descriptive Report Section C.1 for details regarding final tides for H12728. The water level zoning correctors applied to all multibeam data for H12728 were based entirely on Calcasieu Pass, LA (8768094).

No final tide note was provided by NOAA Center for Operational Oceanographic Products and Services (CO-OPS), Leidos is not required to have a final tide note from CO-OPS.

The on-line times for acquisition of valid hydrographic data are presented in the Abstract Times of Hydrography, H12728 (Table A-1).

Abstract Times of Hydrography

Project: OPR-K371-KR-15

Registry No.: H12728

Contractor Name: Leidos

Date: 26 February 2016

Sheet Designation: 2

Inclusive Dates: 09 October 2015 – 15 December 2015

Field work is complete.

Begin Date	Begin Julian Day	Begin Time	End Date	End Julian Day	End Time
10/09/2015	282	20:06:46	10/17/2015	290	06:18:57
11/02/2015	306	09:31:33	11/03/2015	307	23:44:01
11/16/2015	320	05:59:02	11/17/2015	321	09:02:17
12/09/2015	343	17:22:31	12/09/2015	343	22:59:38
12/15/2015	349	12:41:54	12/15/2015	349	15:23:51

Table A-1: Abstract Times of Hydrography, H12728

Transmittal Letter to CO-OPS

A transmittal letter to CO-OPS was not required for H12728.

Other Correspondence Relating to Tides

A copy of correspondence on 14 January 2016 regarding updated verified water level data for station Calcasieu Pass, LA (8768094) can be found in Appendix II (Supplemental Survey Records and Correspondence).

APPENDIX II

SUPPLEMENTAL SURVEY RECORDS AND CORRESPONDENCE

APPENDIX II. SUPPLEMENTAL SURVEY RECORDS AND CORRESPONDENCE

This appendix contains copies of email exchanges between Leidos and NOAA concerning various aspects of the survey, data processing, and submittal topics.

In addition, the following four standalone PDF files have been provided in the II_Supplemental_Survey_Records_&_Correspondence folder of Descriptive Report Appendices:

- The single DTON recommendation file (PDF file only) submitted by AHB to MCD, which references three separate obstructions
- The associated verification e-mail from NDB for the DTON
- A report to the NOAA Navigation Manager regarding one additional danger to navigation that Leidos submitted to AHB, but was not submitted as a DTON by AHB to MCD. This item was an uncharted platform.
- A report to the NOAA Navigation Manager regarding exposed pipelines.

CORRESPONDENCE

From: Mark Lathrop - NOAA Federal [mark.t.lathrop@noaa.gov]

Sent: Thursday, July 30, 2015 1:11 PM

To: Evans, Rod E.

Cc: Michael Gonsalves - NOAA Federal; Eric Berkowitz - NOAA Federal

Subject: Environmental Compliance/Marine Mammal Observers

Attachments: Copy of Sea Turtle Observation Log.xls; Form 11US.pdf; ENVIRONMENTAL COMPLIANCE__MarineMammalTrainedObserverLetter_Leidos.pdf

Rod,

Please see attached for a memo from Captain Berkowitz, which clarifies the 2015 Hydrographic Surveys Specifications and Deliverable (HSSD) environmental compliance requirements.

Best Regards,

Mark

From: Mark Lathrop - NOAA Federal [<mailto:mark.t.lathrop@noaa.gov>]
Sent: Tuesday, October 27, 2015 8:53 AM
To: Bernier, Bridget W.
Subject: Re: OPR-K371-KR-15 questions
Attachments: QualityControl.xsd; CorrectionsToEchoSoundings.xsd; DR_Stylesheet.sps

Bridget,

Attached are a few more files you may need for the DR. For reference, everything you need should be here <http://www.nauticalcharts.noaa.gov/hsd/xmlldr/>

Mark

From: Mark Lathrop - NOAA Federal [<mailto:mark.t.lathrop@noaa.gov>]
Sent: Monday, October 26, 2015 4:03 PM
To: Bernier, Bridget W.
Subject: Re: OPR-K371-KR-15 questions
Attachments: OPR-K371-KR-15 Coast Pilot Field Report.pdf; Sea Turtle Observation Log.xls; DR_Stylesheet.xslt

Bridget,

Please see my responses below in red.

Mark

1. The Project Instructions for Sheets 1 through 4 references the 2014 edition of the HSSD, while the Project Instructions for Sheets 5 and 6 references the 2015 edition of the HSSD.
 - a. Question: May Leidos perform the survey for all six sheets and deliver to the 2015 edition? **Yes.**
2. In the Project Instructions received for Sheets 5 and 6 (Mod 001) the scale for Sheet 6 is listed at "4000".
 - a. Question: Is this Sheet 6 scale supposed to be 40,000? **Yes.**
3. Coast Pilot
 - a. Question: Are the Coast Pilot Investigation Items part of the Coast Pilot Field Report? **Yes.**
4. In the Special Data Handling Requirements, item 2 "Submit all Conductivity, Temperature, and Depth (CTD) data to the National Oceanographic Data Center (NODC) ensuring data are in an appropriate file format as outlined on the NODC website at <http://www.nodc.noaa.gov/access/dataformats.html>."
 - a. Question: Are we only to deliver CTD data or are we to also send data from the MVP? **Only deliver CTD data.**

- b. Question: Where is the data to be submitted? **I'll get back to you on a specific address.**
 - c. Question: When is the data to be submitted by? **Same as survey delivery date.**
 - d. Question: Is the data to be submitted project wide or is it to be separated by sheet? **Submit by sheet.**
 - e. Question: Leidos is anticipating collecting Sheet 5 and Sheet 6 after delivering Sheets 1 through 4, therefore the first sheet being delivered would occur prior to the completion of operations within the project area; should Leidos deliver the CTD data with Sheet 6? **No. Deliver data from each sheet separately.**
 - f. Question: If it happens that during the project a CTD was not used, how are we to document that no CTD data were collected? **There is no need to document this.**
5. There is a difference between the Shoreline and Nearshore Features section between the Award for TO-0001 and the Mod.
- a. The original states: "Verify all features within the composite source file (CSF). All features with attribute asgnmt populated with 'Assigned' shall be addressed even if they are inshore of the NALL. All other submerged or visible cultural features inside the limit of survey shall be verified."
 - b. Whereas the Mod states: "Conduct a limited shoreline verification using the composite source file (CSF). All features with attribute 'asgnmt' populated with 'Assigned' shall be addressed even if they are inshore of the NALL. In the case of the unassigned offshore oil platforms within the survey area, should the field unit observe that the feature is not visible, then a formal disapproval is required. For the purposes of disapproval, charted features labeled with a "PA" will have a search radius of 160 meters, a "PD" will have a search radius of 240 meters, and all other features without a position qualifier will have a search radius of 80 meters."
 - c. Question: Leidos will address any 'Assigned' feature from the CSF. For disapproval, should Leidos follow the guidelines from the Mod Project Instructions? **Yes.**

Questions from the HSSD:

1. On page 111, it states, "If created, the difference surface shall be include in the final deliverables."

- a. Question: Leidos performs the crossline/main scheme review by reviewing a difference surface that is generated in SABER. Is Leidos to deliver these difference grids? **Yes. Submit the difference surface as you would the rest of the SABER data.**
 - b. Question: The Contractor Data Directory Structure (pg 186) does not identify where the difference surface is to be delivered, should Leidos deliver them under a new folder within "Data/Processed/Bathymetry_&_SSS/"? **That should be fine.**
2. On page 118, Coast Pilot Data it states, "A Coast Pilot Field Report will be provided by HSD Operations."
 - a. Question: Leidos has not received the Coast Pilot Field Report, can it please be provided? **See attached.**
3. Page 118, it states, "The consolidated Coast Pilot Review Report shall be submitted in a PDF format and shall include answers to the specific questions, updates to the actual paragraph text, and the original Coast Pilot Field Report."
 - a. Question: Is Leidos to submit edits in both the Coast Pilot Review Report and to the full Coast Pilot? **Yes.**
 - b. Question: Are we to merge the Leidos edited Coast Pilot Review Report and the original Coast Pilot Field Report that we received from HSD Operations into one PDF or should Leidos deliver as two separate PDF files? **You can merge them.**
 - c. Question: If they are to be delivered as two separate PDF files, what is the file naming convention for delivering the original Coast Pilot Field Report; is it acceptable for Leidos to retain the naming convention as it was delivered to Leidos?
4. Page 118, it states "A Coast Pilot Review Report shall be submitted following the completion of operations within a project area, and no later than at the time of submission of the first Descriptive Report for that project."
 - a. Question: Leidos is anticipating collecting Sheet 5 and Sheet 6 after delivering Sheets 1 through 4, therefore the first sheet being delivered would occur prior to the completion of operations within the project area; should Leidos deliver the Coast Pilot with the first delivery? **Yes.**
 - b. Question; Should Leidos identify an edit to the Coast Pilot upon returning to the project area to complete Sheet 5 and Sheet 6 is it acceptable for Leidos to submit a revision with the naming convention similar to page 123 "Revised reports shall be identified by inclusion of a revision number in the name."? **Yes. I don't imagine there will be any changes, though.**

5. Page 118, it states, “If an updated edition of the Coast Pilot was used, this shall be noted.”
 - a. Question: Please clarify the “updated edition”, is this if Leidos downloads the Coast Pilot that is more recent than what was provided to Leidos in the Coast Pilot Review Report? **Yes.**

6. Environmental Compliance Requirements, page 119, it states “The marine mammal observation log and associated photographs shall be submitted to pop.information@noaa.gov (with a CC to the HSD Project Manager/COR) at the end of each project.”
 - a. Question: Leidos is anticipating collecting Sheet 5 and Sheet 6 after delivering Sheets 1 to 4, is it acceptable for Leidos to deliver the marine mammal observation log and associated photographs with the delivery of the last sheet? **Yes.**
 - b. Question: Leidos assumes that this is a project-wide deliverable and does not plan on separating the sightings by sheet bounds, is this correct? **Yes.**

7. Environmental Compliance Requirements, page 119, it states “Sea turtle sightings shall be recorded for each project and an email including the species (if known), number, size, date, time, coordinates, and sea state shall be sent (with a CC to the HSD Project Manager/COR) to: Larisa Avens on the East Coast (larisa.avens@noaa.gov), Jeff Seminoff on the West Coast (jeffrey.seminoff@noaa.gov), or George Balazs in Hawaii and Pacific Islands (george.balazs@noaa.gov).”
 - a. Question: Is there a specific form that Leidos should fill out should there be any sea turtle sightings? **See attached.**
 - b. Question: A delivery timeline is not listed for the Sea Turtle sightings documentation, is Leidos to assume the same delivery requirements as for the Marine Mammal Observation Log with corresponding photographs? **Yes.**

8. On page 128 it states, “Contractors will be provided an XML schema and stylesheet by their COR.”
 - a. Leidos has not received an XML schema and stylesheet that correspond to the Descriptive Report as outlined in the 2015 HSSD, can these files be provided to Leidos? **It should be the same as last year. I've attached it just in case.**

9. On page 134, for the Approval Sheet it states, “List all reports and data not included with the survey records or Descriptive Report that have been submitted to the processing office or to another office (e.g., Data Acquisition and Processing Report, Vertical and Horizontal Report, Tides and Water Levels Package, Coast Pilot Report).”
 - a. Question: Should Leidos also include, if applicable, the submission of the Marine Mammal Observation Log and Sea Turtle Sightings? **Yes.**

10. Page 135, Sound Speed Data Summary. "Submit a list that can be imported into a GIS for office verifiers to analyze the distribution and frequency of the SVP casts."

- a. Question: In previous years Leidos has supplied AHB both a tabular file of the sound speed data acquired for each sheet as well as a files that contain concatenated SSP data that have been formatted for use in CARIS, *.svp files. Is it acceptable for Leidos to deliver only the CARIS *.svp files? **Yes.**

11. Page 142, NOAA extended attributes, special feature type (sftype), was modified from previous HSSD in that the AWOIS option has been removed.

- a. Question: Has the Feature Object Catalogue been changed, the version that Leidos was last provided with is NOAA Extended Attribute File V5-2? **I don't know of a new version. I'll check and get back to you.**
- b. Question: If the version is now different, can that version please be provided to Leidos.

12. CARIS BASE Surface and/or BAG, page 153, "Non-CARIS users may submit their Navigation Surfaces as a Bathymetric Attributed Grid (BAG)."

- a. Leidos assumes the following, based on previous instruction from AHB:
 - i. To deliver BAG version 1.5.1
 - ii. The BAG is to be compressed
 - iii. The BAG file is not to exceed: 2 GB
- b. Question: Are Leidos' assumptions correct? **Yes.**

13. Contractors Data Delivery Structure, page 186:

- a. Question: Leidos identified that there is no place holder under Project Reports for the Coast Pilot, should Leidos create a folder for the Coast Pilot under Project Reports or will the Coast Pilot only be delivered via email? **You can deliver by email.**
- b. Question: Leidos identified that there is no place holder for either the Marine Mammal Observation Log and photographs or the Sea Turtle Sightings, are these submissions only made via email? **Yes.**

On Mon, Oct 19, 2015 at 1:01 PM, Bernier, Bridget W.
<BRIDGET.W.BERNIER@leidos.com> wrote:

Greetings,

After review of the HSSD 2015 as well as the OPR-K371-KR-15 Project Instructions for TO-0001 and the TO-0001 modification we have several questions, these are listed below.

Questions from the Project Instructions:

1. The Project Instructions for Sheets 1 through 4 references the 2014 edition of the HSSD, while the Project Instructions for Sheets 5 and 6 references the 2015 edition of the HSSD.
 - a. Question: May Leidos perform the survey for all six sheets and deliver to the 2015 edition?

2. In the Project Instructions received for Sheets 5 and 6 (Mod 001) the scale for Sheet 6 is listed at "4000".
 - a. Question: Is this Sheet 6 scale supposed to be 40,000?

3. Coast Pilot
 - a. Question: Are the Coast Pilot Investigation Items part of the Coast Pilot Field Report?

4. In the Special Data Handling Requirements, item 2 "Submit all Conductivity, Temperature, and Depth (CTD) data to the National Oceanographic Data Center (NODC) ensuring data are in an appropriate file format as outlined on the NODC website at <http://www.nodc.noaa.gov/access/dataformats.html>."
 - a. Question: Are we only to deliver CTD data or are we to also send data from the MVP?
 - b. Question: Where is the data to be submitted?
 - c. Question: When is the data to be submitted by?
 - d. Question: Is the data to be submitted project wide or is it to be separated by sheet?
 - e. Question: Leidos is anticipating collecting Sheet 5 and Sheet 6 after delivering Sheets 1 through 4, therefore the first sheet being delivered would occur prior to the completion of operations within the project area; should Leidos deliver the CTD data with Sheet 6?
 - f. Question: If it happens that during the project a CTD was not used, how are we to document that no CTD data were collected?

5. There is a difference between the Shoreline and Nearshore Features section between the Award for TO-0001 and the Mod.

- a. The original states: "Verify all features within the composite source file (CSF). All features with attribute asgnmt populated with 'Assigned' shall be addressed even if they are inshore of the NALL. All other submerged or visible cultural features inside the limit of survey shall be verified."
- b. Whereas the Mod states: "Conduct a limited shoreline verification using the composite source file (CSF). All features with attribute 'asgnmt' populated with 'Assigned' shall be addressed even if they are inshore of the NALL. In the case of the unassigned offshore oil platforms within the survey area, should the field unit observe that the feature is not visible, then a formal disproof is required. For the purposes of disproof, charted features labeled with a "PA" will have a search radius of 160 meters, a "PD" will have a search radius of 240 meters, and all other features without a position qualifier will have a search radius of 80 meters."
- c. Question: Leidos will address any 'Assigned' feature from the CSF. For disproof, should Leidos follow the guidelines from the Mod Project Instructions?

Questions from the HSSD:

1. On page 111, it states, "If created, the difference surface shall be include in the final deliverables."
 - a. Question: Leidos performs the crossline/main scheme review by reviewing a difference surface that is generated in SABER. Is Leidos to deliver these difference grids?
 - b. Question: The Contractor Data Directory Structure (pg 186) does not identify where the difference surface is to be delivered, should Leidos delivery them under a new folder within "Data/Processed/Bathymetry_&_SSS/"?
2. On page 118, Coast Pilot Data it states, "A Coast Pilot Field Report will be provided by HSD Operations."
 - a. Question: Leidos has not received the Coast Pilot Field Report, can it please be provided?
3. Page 118, it states, "The consolidated Coast Pilot Review Report shall be submitted in a PDF format and shall include answers to the specific questions, updates to the actual paragraph text, and the original Coast Pilot Field Report."
 - a. Question: Is Leidos to submit edits in both the Coast Pilot Review Report and to the full Coast Pilot?

- b. Question: Are we to merge the Leidos edited Coast Pilot Review Report and the original Coast Pilot Field Report that we received from HSD Operations into one PDF or should Leidos deliver as two separate PDF files?
 - c. Question: If they are to be delivered as two separate PDF files, what is the file naming convention for delivering the original Coast Pilot Field Report; is it acceptable for Leidos to retain the naming convention as it was delivered to Leidos?
- 4. Page 118, it states “A Coast Pilot Review Report shall be submitted following the completion of operations within a project area, and no later than at the time of submission of the first Descriptive Report for that project.”
 - a. Question: Leidos is anticipating collecting Sheet 5 and Sheet 6 after delivering Sheets 1 through 4, therefore the first sheet being delivered would occur prior to the completion of operations within the project area; should Leidos deliver the Coast Pilot with the first delivery?
 - b. Question; Should Leidos identify an edit to the Coast Pilot upon returning to the project area to complete Sheet 5 and Sheet 6 is it acceptable for Leidos to submit a revision with the naming convention similar to page 123 “Revised reports shall be identified by inclusion of a revision number in the name.”?
- 5. Page 118, it states, “If an updated edition of the Coast Pilot was used, this shall be noted.”
 - a. Question: Please clarify the “updated edition”, is this if Leidos downloads the Coast Pilot that is more recent than what was provided to Leidos in the Coast Pilot Review Report?
- 6. Environmental Compliance Requirements, page 119, it states “The marine mammal observation log and associated photographs shall be submitted to pop.information@noaa.gov (with a CC to the HSD Project Manager/COR) at the end of each project.”
 - a. Question: Leidos is anticipating collecting Sheet 5 and Sheet 6 after delivering Sheets 1 to 4, is it acceptable for Leidos to deliver the marine mammal observation log and associated photographs with the delivery of the last sheet?
 - b. Question: Leidos assumes that this is a project-wide deliverable and does not plan on separating the sightings by sheet bounds, is this correct?
- 7. Environmental Compliance Requirements, page 119, it states “Sea turtle sightings shall be recorded for each project and an email including the species (if known), number, size, date, time, coordinates, and sea state shall be sent (with a CC to the HSD Project Manager/COR) to: Larisa Avens on the East Coast (larisa.avens@noaa.gov), Jeff Seminoff on the West Coast (jeffrey.seminoff@noaa.gov), or George Balazs in Hawaii and Pacific Islands (george.balazs@noaa.gov).”

- a. Question: Is there a specific form that Leidos should fill out should there be any sea turtle sightings?
 - b. Question: A delivery timeline is not listed for the Sea Turtle sightings documentation, is Leidos to assume the same delivery requirements as for the Marine Mammal Observation Log with corresponding photographs?
8. On page 128 it states, "Contractors will be provided an XML schema and stylesheet by their COR."
 - a. Leidos has not received an XML schema and stylesheet that correspond to the Descriptive Report as outlined in the 2015 HSSD, can these files be provided to Leidos?
9. On page 134, for the Approval Sheet it states, "List all reports and data not included with the survey records or Descriptive Report that have been submitted to the processing office or to another office (e.g., Data Acquisition and Processing Report, Vertical and Horizontal Report, Tides and Water Levels Package, Coast Pilot Report)."
 - a. Question: Should Leidos also include, if applicable, the submission of the Marine Mammal Observation Log and Sea Turtle Sightings?
10. Page 135, Sound Speed Data Summary. "Submit a list that can be imported into a GIS for office verifiers to analyze the distribution and frequency of the SVP casts."
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iii. The BAG file is not to exceed: 2 GB

b. Question: Are Leidos' assumptions correct?

13. Contractors Data Delivery Structure, page 186:

a. Question: Leidos identified that there is no place holder under Project Reports for the Coast Pilot, should Leidos create a folder for the Coast Pilot under Project Reports or will the Coast Pilot only be delivered via email?

b. Question: Leidos identified that there is no place holder for either the Marine Mammal Observation Log and photographs or the Sea Turtle Sightings, are these submissions only made via email?

Please let me know if there are any clarifications needed to what I have listed above.

Thank you,

-Bridget

From: Evans, Rod E.
Sent: Thursday, November 19, 2015 1:53 PM
To: Quintal, Rebecca T.; Bernier, Bridget W.
Cc: Donaldson, Paul L.
Subject: FW: HTD 2014-04 Revision of Feature Flagging Guidance

From: Eric Berkowitz - NOAA Federal [eric.w.berkowitz@noaa.gov]
Sent: Thursday, November 19, 2015 1:50 PM
To: _NOS OCS HSD; CO.Thomas Jefferson - NOAA Service Account; holly Jablonski - NOAA Federal; CO.Ferdinand Hassler - NOAA Service Account; OPS.Thomas Jefferson - NOAA Service Account; _OMAO MOP CO Rainier; OPS.Ferdinand Hassler - NOAA Service Account; _OMAO MOP CO Fairweather; _OMAO MOP OPS Fairweather; OPS.Rainier@noaa.gov; Thomas Newman; Millar, David FPI; jld@deainc.com; Evans, Rod E.; tara.levy@cctech.us; George Reynolds; Arthur Wright; David Neff
Cc: Russell Proctor - NOAA Federal
Subject: HTD 2014-04 Revision of Feature Flagging Guidance
Attachment: HTD2015-04_RevisionOfFeatureFlaggingGuidance.pdf

All,

Attached is HTD 2015-04 - Revision of Feature Flagging Guidance. The directive serves to revise the feature flagging guidance for survey deliverables from field units to the Hydrographic Processing Branches.

Please contact Katrina Wyllie at katrina.wyllie@noaa.gov if you have any questions or comments concerning this directive.

CAPT Eric W. Berkowitz, NOAA
Chief, Hydrographic Surveys Division
1315 East-West Highway, SSMC3 Room 6823
Silver Spring, MD 20910
[301-713-2700](tel:301-713-2700) x 124 w
[301-204-2791](tel:301-204-2791) - c

From: Mark Lathrop - NOAA Federal [mailto:mark.t.lathrop@noaa.gov]
Sent: Monday, November 30, 2015 2:18 PM
To: Bernier, Bridget W.
Cc: Gene Parker; Matthew Jaskoski - NOAA Federal (matthew.jaskoski@noaa.gov); Evans, Rod E.; Quintal, Rebecca T.; Donaldson, Paul L.
Subject: Re: Follow up on the Coast Pilot Field Report

Bridget,

Sabine Bank is charted on Sheets 1 and 3 of your project. Please report on those areas you surveyed.

Mark

On Mon, Nov 30, 2015 at 1:49 PM, Bernier, Bridget W.
<BRIDGET.W.BERNIER@leidos.com> wrote:

Mark,

Can you please provide clarification regarding the wording in the Coast Pilot Field Report.

From the Coast Pilot Field Report it states the following:

CP5 - Chapter 9 – Paragraph 530

Please verify the shoal depth range:

Sabine Bank is a succession of detached shoal spots parallel with and distant about 17 miles from the mainland. From the vicinity of Calcasieu Pass, the bank extends about 38 miles W to the vicinity of Sabine Pass and has several passages between the detached shoals. Depths on the shoals range from 16 to 30 feet and are subject to change.

Note that Sabine Bank is a large shoal which extends outside of our survey bounds. Can you please confirm that we are only to verify the shoal depth range within the Statement of Work survey bounds.

Thanks,
-Bridget

Bridget W. Bernier | Leidos

Asst. Data Processing Manager | Marine Survey and Engineering Solutions
phone: [401.847.4210](tel:401.847.4210)
bridget.w.bernier@leidos.com | leidos.com

Please consider the environment before printing this email.

From: Bernier, Bridget W.
Sent: Tuesday, December 08, 2015 10:04 AM
To: ahb.dton@noaa.gov; Mark Lathrop - NOAA Federal
Cc: Gene Parker; Evans, Rod E.; Quintal, Rebecca T.; Donaldson, Paul L.; Bernier, Alex T.; Smith, Deborah M.
Subject: OPR-K371-KR-15 Danger to Navigation Reports 01 and 02 for H12728
Attachment: H12728_DTON_1.zip, H12728_DTON_2.zip

Please find attached two (2) Danger to Navigation Reports.

- H12728 DTON #01
- H12728 DTON #02

The files for each DTON submission are contained in a separate zip file. Each zip file contains the following files:

- One (1) S-57 file (*.000)
- Image files that are referenced in the S-57 file (*.jpg)

Please contact me if there are any questions or problems with the attached.

Thanks,
-Bridget

Bridget W. Bernier | Leidos

Asst. Data Processing Manager | Marine Survey and Engineering Solutions
phone: 401.847.4210
bridget.w.bernier@leidos.com | leidos.com

Please consider the environment before printing this email.

From: Bernier, Bridget W.
Sent: Tuesday, December 08, 2015 10:08 AM
To: ahb.dton@noaa.gov; Mark Lathrop - NOAA Federal
Cc: Gene Parker; Quintal, Rebecca T.; Evans, Rod E.; Donaldson, Paul L.; Bernier, Alex T.; Smith, Deborah M.
Subject: OPR-K371-KR-15 Danger to Navigation Reports 03 and 04 for H12728
Attachment: H12728_DTON_3.zip, H12728_DTON_4.zip

Please find attached two (2) Danger to Navigation Reports.

- H12728 DTON #03
- H12728 DTON #04

The files for each DTON submission are contained in a separate zip file. Each zip file contains the following files:

- One (1) S-57 file (*.000)
- Image files that are referenced in the S-57 file (*.jpg)

Please contact me if there are any questions or problems with the attached.

Thanks,
-Bridget

Bridget W. Bernier | Leidos

Asst. Data Processing Manager | Marine Survey and Engineering Solutions
phone: 401.847.4210
bridget.w.bernier@leidos.com | leidos.com

Please consider the environment before printing this email.

From: Kayla Johnson - NOAA Affiliate [kayla.johnson@noaa.gov]
Sent: Tuesday, December 08, 2015 4:24 PM
To: OCS NDB - NOAA Service Account
Cc: Matthew Jaskoski - NOAA Federal; Castle Parker - NOAA Federal; Tim Osborn - NOAA Federal; Smith, Deborah M.; Michael Gonsalves - NOAA Federal; Mark Lathrop - NOAA Federal; Tiffany Squyres - NOAA Federal
Subject: H12728 DtoN Report
Attachment: H12728_DtoN_01.zip

Good afternoon

Please find attached a zip file for survey H12728 DtoN report # 1 for submission to Nautical Data Branch (NDB) of the Marine Chart Division (MCD). This Danger to Navigation submission contains two 37ft Obstructions and one 34ft Obstruction.

The information originates from a NOAA contractor (LEIDOS) and was submitted to the Atlantic Hydrographic Branch (AHB) for review and processing. The contents of the attached WinZip file were generated at AHB. The attached zip file contains a DtoN Letter (PDF), associated image files, and a Pydro XML file.

If you have any questions, please direct them back to me via email or phone ([757-441-6747 x110](tel:757-441-6747)).

Thank you for your assistance with this matter.

--

Kayla Johnson
Physical Scientist
NOAA, Atlantic Hydrographic Branch
439 W. York St.
Norfolk VA 23510
Office: 757-441-6746 x110
Cell: 843-729-8331

"For whatever we lose (like a you or a me), It's always our self we find in the sea"
-E.E. Cummings

From: Kayla Johnson - NOAA Affiliate [kayla.johnson@noaa.gov]
Sent: Tuesday, December 08, 2015 4:26 PM
To: Tim Osborn - NOAA Federal
Cc: Matthew Jaskoski - NOAA Federal; Michael Gonsalves - NOAA Federal; Castle Parker - NOAA Federal; Smith, Deborah M.; Mark Lathrop - NOAA Federal; Tiffany Squyres - NOAA Federal
Subject: H12728 DtoN Report for Nav Manager
Attachment: H12728_DtoN_02_to_NavManager.pdf

Good afternoon

Please find attached one report referencing project OPR-K371-KR-15. The report is a compilation of a DtoN report submitted to the branch in fulfillment of the survey requirements for hydrographic survey H12728 and refers to 1 uncharted platform. The feature does not warrant Danger to Navigation submission to Nautical Data Branch for charting. These reports are submitted for general information with the intent of passing information to the proper authorities.

--

Kayla Johnson
Physical Scientist
NOAA, Atlantic Hydrographic Branch
439 W. York St.
Norfolk VA 23510
Office: 757-441-6746 x110
Cell: 843-729-8331

"For whatever we lose (like a you or a me), It's always our self we find in the sea"
-E.E. Cummings

From: OCS NDB - NOAA Service Account [<mailto:ocs.ndb@noaa.gov>]
Sent: Wednesday, December 09, 2015 11:06 AM
To: Kayla Johnson - NOAA Affiliate
Cc: Matthew Jaskoski - NOAA Federal; Castle Parker - NOAA Federal; Tim Osborn - NOAA Federal; Smith, Deborah M.; Michael Gonsalves - NOAA Federal; Mark Lathrop - NOAA Federal; Tiffany Squyres - NOAA Federal; NSD Coast Pilot; Benjamin K Evans - NOAA Federal; James Crocker - NOAA Federal; Matt Kroll - NOAA Federal; Nautical Data Branch; Tara Wallace - NOAA Federal; Pearce Hunt - NOAA Federal; _NOS OCS PBA Branch; _NOS OCS PBB Branch; _NOS OCS PBC Branch; _NOS OCS PBD Branch; _NOS OCS PBE Branch; _NOS OCS PBG Branch
Subject: Re: H12728 DtoN Report
Attachment: H12728_DtoN_01.zip

L-1792/15 and DD-27036 have been registered by the Nautical Data Branch and directed to Products Branch B for processing.

The DtoNs reported are three submerged obstructions located in the Gulf of Mexico, 23 NM SE of Sabine Pass, LA.

The following charts are affected:
11341 kapp 124

11330 kapp 195

11340 kapp 49

The following ENC's are affected:
US4LA10M

US3GC02M

References:
H12728
OPR-K371-KR-15

This information was discovered by a NOAA Contractor and submitted by AHB.

Nautical Data Branch/Marine Chart Division/
Office of Coast Survey/National Ocean Service/
Contact: ocs.ndb@noaa.gov



On Tue, Dec 8, 2015 at 4:24 PM, Kayla Johnson - NOAA Affiliate
<kayla.johnson@noaa.gov> wrote:

Good afternoon

Please find attached a zip file for survey H12728 DtoN report # 1 for submission to Nautical Data Branch (NDB) of the Marine Chart Division (MCD). This Danger to Navigation submission contains two 37ft Obstructions and one 34ft Obstruction.

The information originates from a NOAA contractor (LEIDOS) and was submitted to the Atlantic Hydrographic Branch (AHB) for review and processing. The contents of the attached WinZip file were

generated at AHB. The attached zip file contains a DtoN Letter (PDF), associated image files, and a Pydro XML file.

If you have any questions, please direct them back to me via email or phone ([757-441-6747](tel:757-441-6747) x110).

Thank you for your assistance with this matter.

--

Kayla Johnson
Physical Scientist
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439 W. York St.
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"For whatever we lose (like a you or a me), It's always our self we find in the sea"
-E.E. Cummings

From: Louis Licate - NOAA Affiliate [mailto:louis.licate@noaa.gov]
Sent: Thursday, January 14, 2016 11:59 AM
To: Mark Lathrop - NOAA Federal
Cc: _NOS.CO-OPS.HTP; Quintal, Rebecca T.; Evans, Rod E.
Subject: Re: difference in tide data for Calcasieu Pass (8768094)

Hello all-

A corrector of 9mm was applied to the data from 9/22/15 15:00 to 11/23/15 15:42.

This corrector was applied in order to correct for a change in sensor elevation from maintenance on the sensor so the difference is correct and new most recent data should be used.

Please let me know if you have any questions or concerns.
-Lou Licate

On Thu, Jan 14, 2016 at 11:50 AM, Mark Lathrop - NOAA Federal <mark.t.lathrop@noaa.gov> wrote:
Forwarding to CO-OPS.

Mark

----- Forwarded message -----

From: Quintal, Rebecca T. <REBECCA.T.QUINTAL@leidos.com>
Date: Thu, Jan 14, 2016 at 11:41 AM
Subject: difference in tide data for Calcasieu Pass (8768094)
To: "Mark.T.Lathrop@noaa.gov" <Mark.T.Lathrop@noaa.gov>
Cc: "Evans, Rod E." <RHODRI.E.EVANS@leidos.com>

Hello Mark,

We have pulled down tide data from the web today that covers the entire span of time that we surveyed (September 23- December 17) plus a little extra on either end.

We noted a difference of 9 millimeters starting at 9/22/2015 3:00:00 PM (see attached file, comparison tab) through the end of what we had previously been able to download from the web (11/22/2015 11:54:00 PM). The new water level data is consistently 9 millimeters larger. Note that prior to 9/22/2015 3:00:00 PM the data match exactly.

We can certainly reapply the tide data to all multibeam data collected on all 4 sheets, but I was hoping to get confirmation that this offset in the water level data is what is expected

before we proceed. Do you know if this is indeed the case? Let me know if you would like me to contact CO-OPs directly.

Thank you!

-Rebecca

Rebecca T. Quintal | Leidos

Hydrographic Survey & Data Solutions Manager

Marine Survey & Engineering Solutions

office: [401.848.4607](tel:401.848.4607)

mobile: [401.829.6242](tel:401.829.6242)

rebecca.t.quintal@leidos.com

From: Castle Parker - NOAA Federal [<mailto:castle.e.parker@noaa.gov>]
Sent: Wednesday, January 20, 2016 2:25 PM
To: Donaldson, Paul L.
Cc: Matthew Jaskoski - NOAA Federal; Mark Lathrop - NOAA Federal; Christina Fandel - NOAA Federal
Subject: RE: DTON's on exposed pipelines

Hey Paul,

Bearing in mind the exposed pipelines do not truly fit the Danger requirements, send me an S57 file that includes the features and the linked images and AHB will create a report and send to Tim Osborn the Nav Manager. I think it's better to submit this information to Tim sooner than later such as when the survey is submitted to AHB.

The submitted image indicates that the most elevated portion of the pipeline rises approximately 3m. Bearing in mind it is located near a charted pipeline, and appears to be offset to the north I don't want to submit a sounding for chart application of which could remain on the chart for some time. Instead, we can follow normal protocol and submit to Tim Osborn as soon as we can, with the intent of notification to the pipeline owner for reburial.

If you want to send all of the exposed pipeline section within an S57 file, AHB will generate the report and submit.

Thanks,
Gene

*Castle Eugene Parker
NOAA Office of Coast Survey
Atlantic Hydrographic Branch
Hydrographic Team Lead / Physical Scientist
castle.e.parker@noaa.gov
office (757) 441-6746 x115*

From: Donaldson, Paul L. [<mailto:PAUL.L.DONALDSON@leidos.com>]
Sent: Wednesday, January 20, 2016 2:04 PM
To: castle.e.parker@noaa.gov
Subject: DTON's on exposed pipelines

Gene,

In December 2015 we submitted a couple of exposed pipelines as DTON's (DTON_2 and DTON_3) within H12727 (See attached DTON_2_MVE.jpg for reference). These were not pass to MCD for charting as a danger but were forwarded in the same manner as the feature report we submitted for the gas seep on H12730. We have identified several exposed pipelines and wanted to see if we should submit them as DTON's, as a feature report, or if we should wait until the data are delivered as they will be discussed in our

DR. Attached are two .png images depicting one of the exposed pipelines as an example of the exposed pipelines in question. Please advise.

Thank you,

Paul L. Donaldson CH (NSPS #241)|Leidos
Survey Operations Coordinator/Chief Hydrographer
Phone: 401.848.4757
Mobile: 860.857.8802
Fax: 401.849.1585
Email: paul.l.donaldson@leidos.com

221 Third Street, Building A
Newport, RI 02840 USA
Leidos.com

From: Smith, Deborah M.
Sent: Wednesday, January 20, 2016 3:08 PM
To: Gene Parker; ahb.dton@noaa.gov
Cc: Mark.T.Lathrop@noaa.gov; Quintal, Rebecca T.; Donaldson, Paul L.; Evans, Rod E.; Bernier, Bridget W.; Bernier, Alex T.
Subject: Submitted DTONs with Verified Tides

Gene,

I hope this email finds you well. We wanted to pass on some information regarding the four Dangers to Navigation reports we had previously submitted to AHB and AHB then submitted to MCD. These DTONs were sent to AHB with verified tides, however subsequently we received notification from CO-OPS that changes were made to the verified water level correctors already posted on the website. I have copied the email below for your reference. The changes are not significant enough to make a difference in the BSB charting, however the known depth for the ENC will change. I have included the original and new depths below. The final corrected water levels have been applied to all data, and the final FFF will reflect the changes to these DTONs.

Sheet 1 H12727

DTON 1 – Depth submitted with DTON: 8.939m
Depth with final verified tides: 8.929m.

Sheet 2 H12728

DTON 1 – Depth submitted with DTON: 10.585m
Depth with final verified tides: 10.575m

DTON 2 – Depth submitted with DTON: 11.480m
Depth with final verified tides: 11.460m

DTON 4 – Depth submitted with DTON: 11.265m
Depth with final verified tides: 11.255m

Please let me know if there are any questions or if you need any additional data from us.

Thank You
-Deb

Email from co-ops:

From: Louis Licate - NOAA Affiliate [<mailto:louis.licate@noaa.gov>]
Sent: Thursday, January 14, 2016 11:59 AM
To: Mark Lathrop - NOAA Federal
Cc: _NOS.CO-OPS.HTP; Quintal, Rebecca T.; Evans, Rod E.
Subject: Re: difference in tide data for Calcasieu Pass (8768094)

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Please let me know if you have any questions or concerns.

-Lou Licate

Deborah M. Smith | Leidos

Lead Hydrographer

221 Third St. Building A

Newport, RI 02840

Phone: 401.847.4210 – ex 4712

deborah.m.smith@leidos.com | leidos.com

From: Donaldson, Paul L.
Sent: Friday, January 22, 2016 11:56 AM
To: castle.e.parker@noaa.gov
Cc: matthew.jaskoski@noaa.gov; Mark.T.Lathrop@noaa.gov; Evans, Rod E.; Quintal, Rebecca T.; Bernier, Alex T.; Bernier, Bridget W.; Smith, Deborah M.
Subject: RE: OPR-K371-KR-15 Feature Report for Exposed Pipelines #01 for H12728
Attachment: H12728_Feature_Report_01.zip

Gene,

Per guidance from AHB, Leidos has generated the attached Feature Report to provide information for AHB to submit to the OCS Navigation Manager and any other appropriate parties.

The Feature Report for H12728 details two separate exposed sections of charted pipelines. These features were found to be adequately charted and this report was generated with the intent of notification to the pipeline owner for reburial.

Please find attached one zip file for Feature Report 01 for H12728.

The zip file contains the following files:

- One (1) S-57 file (*.000)
- Image files that are referenced in the S-57 file (*.jpg)

Please let me know if you have any questions.

Thank you,

Paul L. Donaldson CH (NSPS #241)|Leidos
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From: Kayla Johnson - NOAA Affiliate [<mailto:kayla.johnson@noaa.gov>]
Sent: Monday, January 25, 2016 11:43 AM
To: Donaldson, Paul L.; Tim Osborn - NOAA Federal; Mark Lathrop - NOAA Federal; Matthew Jaskoski - NOAA Federal; Michael Gonsalves - NOAA Federal; Tiffany Squyres - NOAA Federal
Subject: H12728 Exposed Pipelines #01 for Info Only To Nav Manager
Attachment: H12728 Exposed Pipelines For Nav Manager.pdf

Good afternoon

Please find attached one report referencing project OPR-K371-KR-15. The report is a compilation of a DtoN report submitted to the branch in fulfillment of the survey requirements for hydrographic survey H12728 and refers to 2 exposed pipelines. The features do not warrant Danger to Navigation submission to Nautical Data Branch for charting. These reports are submitted for general information with the intent of passing information to the proper authorities.

--

Kayla Johnson
Physical Scientist
NOAA, Atlantic Hydrographic Branch
439 W. York St.
Norfolk VA 23510
Office: 757-441-6746 x110
Cell: 843-729-8331

"For whatever we lose (like a you or a me), It's always our self we find in the sea"
-E.E. Cummings

From: Quintal, Rebecca T.
Sent: Tuesday, February 02, 2016 10:04 AM
To: Mark.T.Lathrop@noaa.gov
Cc: Rhodri E. Evans
Subject: Follow-up on December meeting

Hello Mark,

Just want to follow up on 2 items from our meeting in December.

1. The last NOAA Extended Attribute File that Leidos received was V5-2. Can you please confirm that this is the correct version that we should be using for our TO-0001 deliveries?
2. Just documenting what we discussed in December regarding delivering difference grids... which was... since the requirement to deliver difference grids is only found in the 2015 HSSD in Section 5.3.4.3 Lidar Crossline (page 110-111), that it is not a requirement for our multibeam surveys for TO-0001.

Thanks Mark!
-Rebecca

Rebecca T. Quintal | Leidos
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Marine Survey & Engineering Solutions
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rebecca.t.quintal@leidos.com

From: Christina Fandel - NOAA Federal [mailto:christina.fandel@noaa.gov]
Sent: Monday, February 08, 2016 4:33 PM
To: Quintal, Rebecca T.
Cc: Castle Parker - NOAA Federal; Mark Lathrop - NOAA Federal; Michael Gonsalves - NOAA Federal
Subject: Re: H12727 XML DR test

Gene, Rebecca,

The XML file for H12727 is valid and I have attached a revised file that is readable in Pydro.

Pydro's inability to open the file and noting that the XML is invalid is related to the header information within the XML file.

In short, the XML file requires the root directory of the reference schema to be identified. Because contractor field units often store their reference schema in a different location than NOAA, the specified local schema path is not recognized by Pydro and the XML file is marked as invalid

Pydro's inability to read this file was related to the descriptive report namespace reference which was specified as <http://www.w3.org/2001/XInclude> whereas Pydro is looking for <http://svn.pydro.noaa.gov/2015/02/DescriptiveReport>.

That being said, the XML file that Leidos submitted was valid and I will work with our software programmer to determine if we can automatically update the schema-location reference and DR namespace reference upon import in Pydro. In the meantime, if this issue arises again, please forward the XML file to me and I can make the necessary changes.

Thank you,

Christy

On Fri, Feb 5, 2016 at 2:23 PM, Quintal, Rebecca T.
<REBECCA.T.QUINTAL@leidos.com> wrote:

Thanks for looking at this Gene.

Christina, any guidance is greatly appreciated! We are planning to make the H12727 delivery next week.

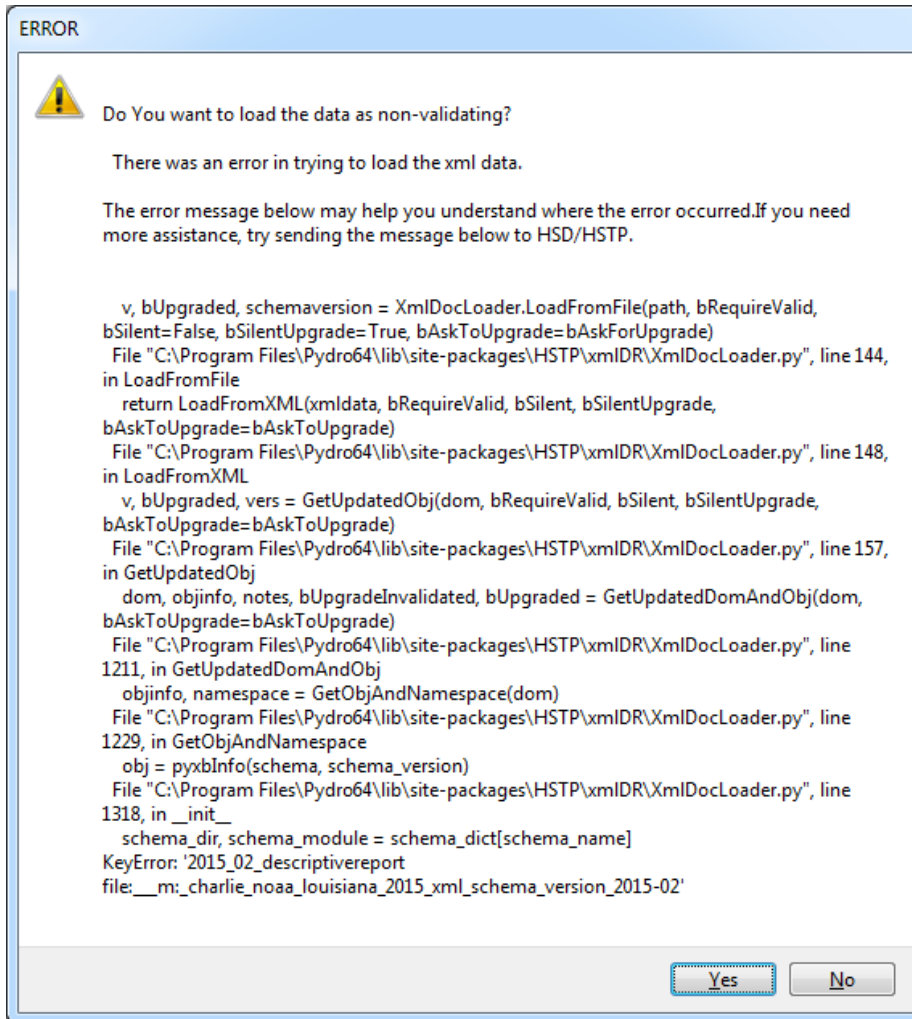
Thanks,

-Rebecca

From: Castle Parker - NOAA Federal [mailto:castle.e.parker@noaa.gov]
Sent: Friday, February 05, 2016 1:26 PM
To: Quintal, Rebecca T.
Cc: Christina Fandel - NOAA Federal
Subject: RE: H12727 XML DR test

Rebecca,

The XML file will not open in Pydro as non-validating. The error message upon opening the test XML file is as follows:



Selected to open the XML file as non-validating. The results were the same as the original error message above. Rebecca I have forwarded your email with the attached to Christy Fandel for review and insight.

To summarize, the submitted XML file will not open.

Sorry.

Gene

Castle Eugene Parker
NOAA Office of Coast Survey
Atlantic Hydrographic Branch
Hydrographic Team Lead / Physical Scientist
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office (757) 441-6746 x115

From: Quintal, Rebecca T. [mailto:REBECCA.T.QUINTAL@leidos.com]
Sent: Friday, February 05, 2016 12:54 PM
To: Castle Eugene Parker (castle.e.parker@noaa.gov)
Subject: H12727 XML DR test

Gene,

Thanks for taking a look at this for us. This XML validates in the XML Spy software we are using. I've also attached the schema and stylesheet that we were provided for our 2015 sheets in case that helps.

Let me know how it looks on your end.

Many thanks!
-Rebecca

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rebecca.t.quintal@leidos.com

From: Donaldson, Paul L.
Sent: Friday, February 12, 2016 10:51 AM
To: 'OCS.NDB@NOAA.GOV'; 'Coast.Pilot@NOAA.GOV'; 'Mark.T.Lathrop@noaa.gov'; 'christina.fandel@noaa.gov'
Subject: OPR-K371-KR-15 Coast Pilot Review Report
Attachment: OPR-K371-KR-15_Coast Pilot Review Report.pdf

Please find attached the Coast Pilot Review results for Contract: EA133C-14-CQ-0033, Project Number OPR-K371-KR-15, Task Order #01 (Sabine, LA). The one attached .pdf file submitted addresses the specific questions within OPR-K371_KR-15 Coast Pilot Field Report. Information was updated for the general operations area and ports of call utilized during survey operations for chapters 9 and 10 based on the August 23, 2015 US Coast Pilot 5, , Gulf of Mexico, Puerto Rico and Virgin Islands.

Please contact me if there are any questions or problems with the attached.

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From: Donaldson, Paul L.
Sent: Saturday, February 20, 2016 3:48 PM
To: castle.e.parker@noaa.gov
Cc: Quintal, Rebecca T.; Bernier, Bridget W.
Subject: OPR-K371-KR-15 H12728 Feature Report 2
Attachments: H12728_Feature_Report_2.zip

Gene,

Per guidance from AHB, Leidos has generated the attached Feature Report to provide information for AHB to submit to the OCS Navigation Manager and any other appropriate parties. This is a non-chartable feature, originating from a seep approximately 260 meters west of a charted pipeline.

Please find attached one file for Feature Report 02 for H12728.

The zip file contains the following files:

- * One (1) S-57 file (*.000)
- * Image files that are referenced in the S-57 file (*.jpg)

Please let me know if you have any questions.

Paul L. Donaldson CH (NSPS #241)|Leidos
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APPROVAL PAGE

H12728

Data meet or exceed current specifications as certified by the OCS survey acceptance review process. Descriptive Report and survey data except where noted are adequate to supersede prior surveys and nautical charts in the common area.

The following products will be sent to NCEI for archive

- H12728_DR.pdf
- Collection of depth varied resolution BAGS
- Processed survey data and records
- H12728_GeoImage.pdf

The survey evaluation and verification has been conducted according current OCS Specifications, and the survey has been approved for dissemination and usage of updating NOAA's suite of nautical charts.

Approved: _____

Lieutenant Commander Briana W. Hillstrom, NOAA
Chief, Atlantic Hydrographic Branch